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NEWTONIAN ANTINOMIES AGAINST THE *PRIMA VIA*

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THE proof of God's existence from motion in the universe, as originally proposed by Aristotle¹ and as later presented by St. Thomas,² was intended to be understood by physical scientists. The terms in which it was couched were technical terms with clearly defined meanings, and their application was straightforward and rigorous. Yet the proof, for all its technical elegance, no longer convinces the scientific mind. By and large, its terminology is unintelligible to modern scientists, and as a consequence the argument is now commonly rejected as having no scientific importance or validity.

There are many possible explanations for this enigma, most of them reducible to the patent equivocation in the use of the word "science" through the past three centuries. Prior to the

¹ *Physics*, Book VII.

² *Summa Theologiae*, I, q. 2, a. 3.

seventeenth century, science was commonly understood as a body of certain and evident knowledge known to be true through causes. Physical or natural science was further considered as having two main parts: a fundamental or generalized part, dealing with the common features of natural things presupposed to other studies, and a specialized part in which detailed investigation was made of the various types of natural things. The Galilean-Newtonian revolution drastically affected this understanding; it placed the accent on intensive specialized investigation, minimized the search for causes, and in its place substituted a methodology based largely on mathematical correlations.³ From that time until the present day, the meaning of the term "science" has still not crystallized, but the prevailing modern opinion places the emphasis on specialized investigation using a uniform postulational procedure that engenders only probable knowledge. Thus causality, certitude and truth are no longer the hallmark of science. Moreover, there is no fundamental or generalized study of physical reality prior to detailed experimental work. Such considerations, if they are thought of at all, are usually relegated to the broad field of philosophy, and they are not regarded as essential to the intellectual equipment of the scientist.

The *prima via*, or the proof of God's existence from motion, is refractory to the modern mind simply because it is based upon these fundamental, generalized concepts that are no longer considered a part of science and hence are not taught to scientists. And the situation is further complicated by the fact that modern specialized terminology frequently employs the same terms as pre-Galilean science, but with more restricted meanings than these terms enjoyed in the traditional fundamental understanding. Thus the modern scientist finds considerable ambiguity in the classical statement of the demonstration, and this constitutes an almost insurmountable barrier to his acceptance of its conclusion.

³ E. F. Caldin, "Science and the Map of Knowledge," *Blackfriars*, XXXVI (1955), 563-569.

Yet there is a ray of hope for one who would reinstate the *prima via* to its rightful place as a classical scientific demonstration. Oddly enough, this springs from the very man whose genius distracted later generations from becoming interested in the fundamental science of nature that rigorously establishes the demonstration, namely, Sir Isaac Newton. Being at the beginning of a new line of thought, Newton appreciated the terminology of his predecessors and properly formulated his own contribution so as not to be misunderstood by his contemporaries. But, as frequently happens, the scientists who are now most indebted to Newton are generally unacquainted with his original works, and thus have lost contact with this valuable part of his writings. They miss the point of the very title of his main contribution, the *Mathematical Principles of Natural Philosophy*, possibly because they are unaware of any other principles with which Newton might be contrasting the ones he there proposes. Even worse, in some instances they misrepresent his teachings, and use their own misconceptions to argue against the premises of the *prima via*.

This situation has given rise to the so-called Newtonian antinomies against the *prima via*.⁴ They are not Newton's arguments against this classical demonstration, but rather are difficulties that present themselves to those who are acquainted with Newton's laws of motion, and cannot see how these can be reconciled with the analysis of motion presupposed to the proof for God's existence. Although these antinomies appeal immediately to anyone who has only a rudimentary knowledge of Newtonian mechanics, moreover, they are quite difficult to resolve, and have proved extremely bothersome to philosophers and theologians who teach the *prima via* to students of modern science.

The present study is an attempt to remove these difficulties

⁴ R. Garrigou-Lagrange, O. P., has already considered one such antinomy in an appendix to *God: His Existence and His Nature* (London: B. Herder, 1936), II, pp. 447-452. More recently, E. T. Whittaker has invoked a Newtonian antinomy to reject the *prima via* in his *Space and Spirit* (London: Thomas Nelson and Sons, 1946).

at their source by evaluating them in the light of Newton's original doctrine. It aims to rediscover, for those acquainted with the terminology of modern Newtonian physics, the physical import of the celebrated *Principia*, to show how this work presupposes a fundamental science of nature based on generalized physical principles, and how in the light of these presuppositions answers can still be given to the basic problems Newton raised about the physical world. And in thus removing the apparent difficulties now contained in the Newtonian antinomies, it proposes to insinuate, at least, that the *prima via* still remains a classical demonstration for scientists, that it is in fact the monumental achievement of physical science for anyone who can learn the generalized concepts on which it is based and rigorously apply them to all he knows with certitude about the physical world.

The three antinomies selected for resolution are based upon each of Newton's three laws of motion. They are directed not only against the conclusion of the *prima via*, but also against its two basic premises, namely, the motor causality principle which states that whatever is moved is moved by another, and the regress principle which rules out either an infinite series or a re-entrant series of corporeal movers.

Thus the first law of motion, which enunciates the principle of inertia, would seem to affirm that the inertia of a body is the sufficient explanation of that body's motion, and therefore invalidates the principle that whatever is moved is moved by another. Again, one consequent of the second law, which itself seems to be an operational definition of force, mass and acceleration, is the inverse-square law of gravitational attraction. This law would seem to affirm that mutually attracting bodies are the sufficient explanation of gravitational motion, and thus they invalidate the regress principle by invoking a closed chain of moved movers. And finally, the third law of motion, stressing the universality of action and reaction between movers and the moved, would seem to exclude the very possibility of an unmoved incorporeal Mover as being the first cause of motion.

More complex antinomies may have occurred to some readers, and others could undoubtedly be excogitated with little effort, but it is believed that the basic difficulties are contained in these three. These also have the advantage that they can be solved to an appreciable extent by reference to Newton's original writings. From the viewpoint of textual analysis, it matters little in which order these be considered. Their resolution can best be accomplished, however, by first answering the antinomy arising from the law of gravitational attraction, then using the concepts developed therein to reply to the antinomy based on the principle of inertia, and finally by resolving the action-reaction antinomy.

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FIRST ANTINOMY: *In gravitational motion, all bodies mutually attract each other with a force given by the inverse-square law. But this force adequately accounts for gravitational motion without the presence of an extrinsic mover. Therefore the two or more bodies are the mutual cause of each other's motion, and they form a closed system in which no extrinsic mover is needed, let alone a first unmoved Mover.*

This antinomy obviously presupposes the reality of gravitational attraction as a physical force that exists outside the mind and is actually the cause of the falling motion otherwise identified as gravitational. Most scientists today will accept this presupposition, for they commonly refer to the pull of gravity as if it were something real, and some even discuss quite seriously the problem of shielding gravitational attraction in some way analogous to that in which magnetic and electrical fields are shielded.⁵ Whether or not this is a *true* presupposition, however, is another question. In fact, whether Newton would subscribe to such an understanding of the attraction concept he proposed presents an even more interesting problem, and one that will be fruitful to investigate at the outset in order to prepare for the resolution of this antinomy.

⁵ The Gravity Research Foundation, New Boston, N. H., has repeatedly offered prizes for the best essay on this subject.

Newton's conception of gravitational attraction can best be understood in terms of the distinction that he made between physical and mathematical principles at the very beginning of his *Principia*. In the first sentence he states: "I have in this treatise cultivated mathematics as far as it relates to philosophy."⁶ He then goes on to outline the entire content of the work, and stresses the role that mathematical demonstration will play in the science he is presenting:

I consider philosophy rather than arts and write not concerning manual but natural powers, and consider chiefly those things which relate to gravity, levity, elastic force, the resistance of fluids, and the like forces, whether attractive or impulsive; and therefore I offer this work as the mathematical principles of philosophy, for the whole burden of philosophy seems to consist in this—from the phenomena of motions to investigate the forces of nature, and then from these forces to demonstrate the other phenomena; and to this end the general propositions in the first and second Books are directed. In the third Book I give an example of this in the explication of the System of the World; for by the propositions mathematically demonstrated in the former Books, in the third I derive from the celestial phenomena the forces of gravity with which bodies tend to the sun and the several planets. Then, from these forces, by other propositions which are also mathematical, I deduce the motions of the planets, the comets, the moon, and the sea.⁷

Newton's use here of the term "philosophy" is to be understood in the sense of the term "physics," as they were used interchangeably in his time. He is quite clear in pointing out that he is concerned with natural phenomena, and not merely with calculations that respect artifacts, such as levers and the like, which were treated mathematically by the ancients. And his mathematical principles are not the abstract principles of pure mathematics; they have an intimate connection with physical reality and are primarily ordered to explaining that reality. He stresses this again in the introduction to the third Book, where he says:

⁶ I. Newton, *Mathematical Principles of Natural Philosophy* (Great Books of the Western World, vol. 34; Chicago: Encyclopedia Britannica Inc., 1952), p. 1.

⁷ *Ibid.*, pp. 1-2.

In the preceding books I have laid down the principles of philosophy, principles not philosophical but mathematical: such, namely, as we may build our reasonings upon in philosophical inquiries. These principles are the laws and conditions of certain motions, and powers or forces, which chiefly have respect to philosophy. . . . It remains that, from the same principles, I now demonstrate the frame of the System of the World.⁸

Thus Newton's approach to physical reality was not completely physical, nor was it completely mathematical, but it was rather a mixture of the two, and so it would be more proper to designate it as physico-mathematical. Moreover, in his development of this new science, which has with good reason come to be known as mathematical physics, he is not always concerned with purely physical considerations. Since we are interested now in his attitude towards "gravitational attraction," it will be well to trace here his development of the inverse-square law in an attempt to identify the physical and mathematical elements present in his reasoning process.

After stating his definitions and laws of motion, Newton begins immediately to treat of the motions of bodies, and the whole of Book I is devoted to this subject. He begins this treatment, however, not with one body attracting another body in any physical sense, but with the notion of one body alone tending to a mathematical center. The first ten sections are thus devoted to theorems which describe mathematically the motion of such a body, and no reference is made whatsoever to any attracting body that might be regarded as the physical cause of the motion. Then, in the eleventh section, he takes up the motions of bodies *tending to each other*, and it is only in the twelfth section, where he considers the attractive forces of spherical bodies, that he derives the inverse-square law in the second proposition.

It should be obvious from Newton's procedure that he considered the mathematical aspects of gravitational motion as something that could be derived while abstracting completely

⁸ *Ibid.*, p. 269.

from the physical causes of the motion, for otherwise he could not possibly have followed this method of derivation. But the question arises whether he himself actually thought that the "attracting" body was a necessary physical presupposition, or whether the entire derivation could be made rigorously while remaining quite indifferent as to what might be the physical cause of the motion. Or, to put it somewhat more generally, could his new science be developed without necessary reference to physical causes as they might exist in the real world, as long as they did not contravene the mathematical principles that successfully describe such motion?

Reference to Newton's original text will again throw light on the matter. At the very outset, in his comments on Definition VIII, he makes quite clear what he intends by the "quantities of forces" to which he will have reference throughout the three Books:

These quantities of forces, we may, for the sake of brevity, call by the names of motive, accelerative, and absolute forces; and, for the sake of distinction, consider them with respect to the bodies that tend to the center, to the places of those bodies, and to the center of force to which they tend; that is to say, I refer the motive force to the body as an endeavor or propensity of the whole towards a center, arising from the propensities of the several parts taken together; the accelerative force to the place of the body, as a certain power diffused from the center to all places around to move the bodies that are in them; and the absolute force to the center, as endued with some cause, without which those motive forces would not be propagated through the spaces round about it; whether that cause be some central body . . . or anything else that does not yet appear. For I here design to give only a mathematical notion of those forces, without considering their physical causes and seats.*

The last sentence of the citation gives express indication that Newton himself was abstracting from physical factors involved in all types of motion attributable to such forces. That he also had in mind gravitational "attraction" is beyond all doubt, for he goes on to say:

* *Ibid.*, p. 7.

I likewise call attractions and impulses, in the same sense, accelerative and motive; and use the words attraction, impulse or propensity of any sort towards a center, promiscuously, and indifferently, one for another; considering those forces not physically, but mathematically; wherefore the reader is not to imagine that by those words I anywhere take upon me to define the kind, or the manner of any action, the causes or the physical reason thereof, or that I attribute forces, in a true and physical sense, to certain centers (which are only mathematical points); when at any time I happen to speak of centers as attracting, or as endued with attractive powers.¹⁰

This makes it quite clear that centripetal "attraction," for Newton, was simply a mathematical way of looking at the phenomenon, which in no way was intimately connected with any physical presupposition as to why the phenomenon took place. And he recurs to this theme immediately after deriving the inverse-square law, where he again points out:

I here use word *attraction* in general for any endeavor whatsoever, made by bodies to approach to each other, whether that endeavor arise from the action of the bodies themselves, as tending to each other or agitating each other by spirits emitted; or whether it arises from the action of the ether or of the air, or of any medium whatever, whether corporeal or incorporeal, in any manner impelling bodies placed therein towards each other. In the same general sense I use the word *impulse*, not defining in this treatise the species or physical qualities of forces, but investigating the quantities and mathematical proportions of them.¹¹

This was a point that was evidently misunderstood in Newton's own day, so when he came to write the *Optics* some years after the *Principia*, he returned again to the question of gravitational "attraction" at the end of the tract on light, and tried to make his position yet more explicit:

How these attractious may be performed I do not here consider. What I call attraction may be performed by impulse, or by some other means unknown to me. I use that word here to signify only

¹⁰ *Ibid.*, p. 8.

¹¹ *Ibid.*, pp. 180-181.

¹² *Optics* (Great Books of the Western World, vol. 34), p. 531.

in general any force by which bodies tend towards one another, whatsoever be the cause.¹²

Thus an unprejudiced study of Newton's presentation of mathematical physics indicates that he thought it quite valid to discuss the mathematical laws and properties of motion, while abstracting completely from the physical factors that are the adequate cause of such motion. Does this mean that in Newton's mind there were no proper physical causes for the motion, or that these were out of the ambit of scientific consideration? Could his mathematical physics be said to deny causality, or at least to place it in the realm of meaningless questions? Far from committing himself to such an attitude, Newton frankly states that there *must* be a cause for gravitational motion; indeed, he should like very much to know what it is, but he has never been able to answer the problem to his own satisfaction, and he does not want to venture an explanation that is purely hypothetical. Thus he states at the end of the *Principia*, in the General Scholium where he summarizes his views on the physical universe:

Hitherto we have explained the phenomena of the heavens and of our sea by the power of gravity, but have not yet assigned the cause of this power. This is certain, that it must proceed from a cause. . . . But hitherto I have not been able to discover the cause of those properties of gravity from phenomena, and I frame no hypotheses.¹³

The last words cited, *hypotheses non fingo*, have often been quoted as Newton's great contribution over that of the scholastic thinkers, but its context seems completely forgotten in the minds of many moderns.

The more one studies Newton's works, the more one becomes convinced that Newton used the "attraction theory" only as a convenient mathematical device for deriving his laws and equations of motion, but that he inclined to the opinion that there was an inherent power in the bodies themselves that caused them to gravitate, and not to be pulled by something

¹² *Mathematical Principles*, p. 371.

outside. This would seem to be confirmed by his method of derivation in the first ten sections of Book I mentioned above, where he starts off initially with the notion of bodies tending towards a center. There are also express indications in his writings that he favored the impulse concept when he was speaking physically, as opposed to mathematically, as witness his statement at the beginning of Section XI of Book I:

I shall therefore at present go on to treat of the motion of bodies attracting each other; considering the centripetal forces as attractions; though perhaps in a physical strictness they may more truly be called impulses. But these propositions are to be considered as purely mathematical; and therefore, laying aside all physical considerations, I make use of a familiar way of speaking, to make myself the more easily understood by a mathematical reader.¹⁴

Further, when he comes to mention various causes at the physical level, he first names the action of bodies themselves before considering other possibilities.¹⁵ He also defines motive force "as an endeavor or propensity of the whole towards a center."¹⁶ Later, when speaking of the motions of planets, he prefers to speak actively rather than passively and mentions, "That all the planets gravitate one towards another, we have proved before."¹⁷ These are not absolutely convincing in themselves, but when we consider them with some comments Newton made in a letter to Professor Bentley in which he expressly rejects the "attraction" concept, it seems that they give the best explanation consistent with his other statements. For Newton wrote to Bentley after the first edition of the *Principia*:

That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity, that I believe no man, who has in

¹⁴ *Ibid.*, p. 111.

¹⁵ *Ibid.*, p. 130.

¹⁶ *Ibid.*, p. 7.

¹⁷ *Ibid.*, p. 281.

philosophical matters a competent faculty of thinking, can ever fall into it.¹⁸

It is true that Newton's reasoning here is based on his abhorrence of a void, but the overall argument has cogency today in view of the rejection of a Newtonian "ether" on the basis of the Michelson-Morley experiment.

The only difficulty in Newton's mind about attributing to bodies an inherent power which caused them to gravitate was that such a power, from all the evidence he possessed, was occult, and he had no predilection whatsoever for occult powers. It is interesting in this connection to read Roger Cotes' implicit answer to this difficulty when he wrote, at Newton's invitation, the Preface to the second edition of the *Principia*. He there makes this statement:

But shall gravity be therefore called an occult cause, and thrown out of philosophy, because the cause of gravity is occult and not yet discovered? Those who affirm this, should be careful not to fall into an absurdity that may overturn the foundations of philosophy. For causes usually proceed in a continued chain from those that are more compounded to those that are more simple; when we have arrived at the most simple cause we can go no farther. Therefore no mechanical account or explanation of the most simple cause is to be expected or given; for if it could be given, the cause were not the most simple. These most simple causes will you then call occult, and reject them? Then you must reject those that immediately depend upon them, and those which depend upon these last, till philosophy is quite cleared and disengaged of all causes.¹⁹

Cotes here gives implicit preference for the natural impulse explanation for gravitational motion. And this explanation being quite consistent with Newton's various remarks on the subject, we have excellent reason to reject the "attraction" notion as of mathematical utility but of little physical significance, and to look, therefore, for a proper physical cause for gravitational motion.

¹⁸ Letter to Bentley, 1692/3, in Eddleston, *Correspondence of Sir Isaac Newton and Professor Cotes* (London, 1850), p. 159.

¹⁹ R. Cotes, Preface to the Second Edition, *Mathematical Principles* (Chicago: Henry Regnery Co., 1951), p. xviii.

The foregoing analysis of Newton's work centers attention on the fact that the use of mathematics in this science can well obscure factors that pertain to physical causality. It is well to insist on this, and to make quite clear what the contribution of mathematics is for Newtonian science, for otherwise there is danger in replacing its physical aspects by an all-consuming mathematicism that confers great exactness and rigor on a description, but is not at all sure about what reality is ultimately described.

The most significant word in the vocabulary of the mathematician is the term "equation." The use of mathematics in a physical science is immediately directed towards the writing of equations that describe particular classes of phenomena. And this in turn makes it necessary to equate quantities. The only difference between mathematical physics and pure mathematics from the point of view of these quantities is that the former is concerned with quantities that are the result of measurements performable on various physical bodies and their qualities, while the latter is concerned with quantities that are pure numbers. The former considers numbers with a dimensional tag attached, while the latter considers numbers alone. The dimensional specification introduces an additional step into the calculations of the mathematical physicist, for he not only has to be sure that his equations are numerically correct, but also that they equate on the score of dimensional analysis. But he still must equate. If mathematics applied to physical problems can produce no equations, it is sterile and does not generate mathematical physics. It is only in terms of equations that the hybrid science becomes intelligible.

Now the peculiar thing about an equation is this: if it does not express a tautology, then the only way it can equal two things that are not identical is by *abstracting* from certain features that are not common to both. In fact, abstraction must be made from everything that would either disturb the equality, or does not enter into it essentially. An equation that is not a tautology, by the very fact that it is an equation,

must of necessity give only a partial account of physical reality. This is not to say that such a partial account may not be an important one; it may well be extremely fruitful and useful in describing the properties and relations that obtain between particular phenomena. But it must abstract from some physical considerations—whether they be known or unknown in the mind of the mathematical physicist is immaterial at this point—it must equate parts, and thus of its nature it gives only a partial account of the physical world.

When Newton's second law is given mathematical formulation, for instance, there are only three things that enter the equation: force, mass and acceleration. Whatever be the physical situation to which it is applied, every physical aspect other than those which can be ascertained by these three measurements is unimportant. More than that, every other aspect *must* be neglected at the price of disturbing the equality. A boy pulling a sled cannot be equated to the sled. There is no doubt that he is the physical cause of the sled's motion, and yet there is no way of showing this in the Newtonian equation. All that the equation can say is F equals ma . Granted the motion, whatever be its physical cause, the relation between certain measurable aspects of the bodies involved will be expressed accurately by the equation. But the price of the very writing of the equation is the neglect of some factors that are physically necessary to an understanding of the phenomenon. The question of physical causality is by-passed at the point where mathematical physics begins.

If this were all that could be said for modern physics and its knowledge of the physical universe, however, the *prima via* would be a quite hopeless undertaking. The fact is that recent years have shed light on the inadequacy of a mathematical physics that equates quantities numerically and dimensionally, and then stops at that. Modern scientists are returning to the concept of a mathematical physics that uses its equations as a tool, as a starting point to ask questions about the physical

reality that lies beneath the description, which Newton clearly espoused.²⁰

One sign of this is the tendency, in certain quarters, to distinguish between mathematical physics and theoretical physics. According to this conception, the mathematical physicist may well restrict himself to writing equations, to investigating the consequents of certain postulates and the mathematical formulation of hypothetical constructions, and yet be withal divorced from questions immediately respecting the physical world. He may be two steps closer to that world than the pure mathematician, and one step closer than the applied mathematician who "tailors" equations for him, but he still refrains from passing judgment on the physical reality that lies behind his final results. Not so the theoretical physicist. He now is approaching the classical conception of the integral physicist. He not only knows the final results of the mathematical physicist, but he knows what they *mean* in terms of the physical world. Mathematics is one of his most powerful tools, but it is only a tool; there are still physical questions that can be asked, and it is his business to find the answers.²¹

It is to such a theoretical physics, developed in the light of the principles of a generalized physical science already known to Aristotle and Saint Thomas, that the solution of the problem of gravitational attraction must be referred.²² The inverse square law, on the face of it, is powerless to say what is the cause of gravitational motion. Recourse must be had to physi-

²⁰ *Mathematical Principles* (Great Books of the Western World, vol. 34), p. 181: "In mathematics we are to investigate the quantities of forces with their proportions consequent upon any conditions supposed; then, when we enter upon physics, we compare those proportions with the phenomena of Nature, that we may know what conditions of those forces answer to the several kinds of attractive bodies. And this preparation being made, we argue more safely concerning the physical species, causes, and proportions of the forces."

²¹ Cf. W. H. Kane, B. M. Ashley, J. D. Corcoran, R. J. Nogar, *Science in Synthesis* (River Forest, Ill.: Albertus Magnus Lyceum for Natural Science, 1953), pp. 86, 87.

²² Cf. Pope Pius XII, "Science and Philosophy," Address to the Pontifical Academy of Sciences, April 24, 1955. *The Pope Speaks*, Vol. 2, No. 2 (1955), pp. 118-120.

cal concepts to find the answer, and since Newton himself seems to have inclined to the natural impulse explanation, it offers a convenient concept with which to begin the search.

Nature, taken in a strict technical sense, is a principle of motion that exists *within* a primary unit.²³ It is the source from which proceed all movements that are called "natural," and thus such movements are conceived as originating in some way within the moving body, and not imposed on it completely from without. Natural motions are therefore different from compulsory motions, which are the result solely of extrinsic agents acting on the body.²⁴

When studying the local motions of fishes and birds and other living things, there is no great difficulty in recognizing a natural motion and distinguishing it from a compulsory motion. If a fish is taken and thrown into a bucket, there cannot be much question that its motion, as it flies in a graceful arc through the air, is not natural for a fish; "thrown" motion is compulsory motion, and it matters little whether the thing thrown be a fish or a baseball, because the cause of the motion is quite clearly from without. And if the fish be seen swimming in an aquarium, there is also no great difficulty in identifying this motion as natural. That is one of the ways you go about identifying fishes and various species of living things; their characteristic motions manifest their natures, and thus have a primary claim to being termed natural.²⁵ Somewhat the same thing may also be said for the motions that proceed from inorganic primary units, particularly when the motions considered are alterations and fundamental changes. For instance, it is natural for radium to break down to lead by radioactive disintegration. The very fact that such a phenomenon is referred to as *natural* radioactivity is a tacit admission of the validity of this view. But when the problem is raised about the

²³ St. Thomas, *II Physic.*, lect. 1; Aristotle, 192 b 22.

²⁴ Compulsory motion is also called violent motion. Cf. *IV Physic.*, 214 b 33, lect. 12.

²⁵ Cf. W. H. Kane, "Comment on Dr. Foley's Paper," *Proceedings of the American Catholic Philosophical Association*, XXVI (1952), pp. 144-146.

local motion of inorganic bodies, and particularly about gravitational motion, the answer is not so obvious. Is gravitational motion a compulsory motion, something imposed on the body completely from without, or is it a natural motion that proceeds in some way from within the falling body itself? This is the basic issue at stake in the question of gravitational attraction; it must be faced squarely if an answer is to be given in terms of fundamental physical principles.

The most simple way to solve the difficulty, of course, is to enumerate the various features of natural motions that are found in more obvious cases, and then to apply them to the case under consideration. If all can be verified of gravitational motion, then there is strong reason for holding that the latter is a natural motion. If, on the other hand, this motion has nothing in common with other motions that are known to be natural, then the presupposition that it is only a compulsory motion should be favored, and the search started for the compelling agent or the physical causes that properly produce the compulsion.

Natural motion can be identified from these conditions that accompany the work of nature: it is from within,²⁶ spontaneous, uniform in its action,²⁷ and always directed to a definite goal or term.²⁸ Furthermore, the term to which it is directed is characteristic of the particular primary unit having that nature. Moreover, all these conditions are verified in gravitational motion, and thus it should be regarded as a natural motion.

Gravitational motion is from within. No matter what extrinsic factors may affect the motion, the single most important cause of the motion is the characteristic of the body that makes it ponderable. We refer to this as its gravity, and measure it by the various operational procedures for determining weight or mass. But there is something *within* the body that we are measuring, and this is the most fundamental source of its motion.

²⁶ Cf. *II Physic.*, 199 b 26, lect. 14.

²⁷ Cf. *VIII Physic.*, lect. 15.

²⁸ Cf. *II Physic.*, 198 b 10, lect. 4, lect. 12.

Further, because gravitational motion is from within, it is spontaneous. As soon as the props are taken out from under a heavy object, it immediately and spontaneously falls to the ground. As soon as any massive body is left to its own devices, it immediately and spontaneously seeks its proper place in the physical environment in which it happens to be. There is no sluggishness, no indifference as far as the manifestation of the tendency is concerned. All that is required is the removal of the impediments restraining the tendency, and the material body will unhesitatingly seek a physical place compatible with its nature.

Again, gravitational motion is always uniform in its action. Bodies of any particular chemical element, to make the case simple, will follow exactly the same path, will fall with exactly the same velocity in a given medium as they seek their natural place. If this were not the case, all of Newtonian physics would have to be rejected immediately. Obviously, the particular details describing the motion will vary for different chemical elements, for different chemical compositions that might characterize various bodies, but given the same type of body it will always follow a characteristic path. Nature acts uniformly unless it is impeded by an outside agent, and this is also seen to be the case in gravitational motion.

Finally, gravitational motion is always directed to a definite goal or term that is characteristic of the falling body. This is not to say that every body has an absolute point in empty space to which it tends. The term referred to here is not a mathematical entity, but rather a term that is understood in a physical context. If a gas chamber contained atoms of all the elements in the periodic table, and the atoms were allowed to reach equilibrium at a given temperature, all of them would seek definite levels of stratification characteristic of their particular natures. In fact, that would be one way of sorting out the various elements and classifying them, and has been so used by Aston in his mass spectrograph. Similarly, bodies composed of various elements would seek definite places in any physical

environment determined by the proportions of the elements of which they were composed. The term sought in any particular environment is the natural place of the body, and when it is attained, the body comes to rest. This, too, is characteristic of natural motions, for nature is the principle of motion and *rest*, as has been clearly asserted by Aristotle.²⁹ Thus gravitational motion gives all the indications of being a natural motion.

It might be objected at this point that these arguments are convincing enough, but they do not *prove* that gravitational motion is a natural motion in the sense that they remove all doubt, nor do they completely exclude the hypothesis of another body or a corporeal medium acting outside the falling body and causing its motion. The objection is valid, but there is a twofold difficulty involved in it that needs elucidation.

First of all, to say that a motion is a natural motion is not to eliminate the need for an efficient cause of that motion. Nature is a principle of motion *within* the body undergoing motion, but it is a principle in the order of formal or material causality, not in the order of efficient causality. Thus, even a body that is naturally in motion must have an efficient cause of that motion, it must be moved by an agent distinct from itself. This is no less true of motions that proceed from active principles within living organisms, than it is of non-living things having only a passive principle of motion within them. But the mover in the case of a natural motion has to be one that can move the body *naturally*, i. e., in accordance with its nature. It cannot be a violent agent that leaves no determination to the thing moved by pushing it or pulling it from without in haphazard fashion.

Secondly, the identification of the efficient cause of a natural motion is a problem that is considerably more difficult than recognizing that particular motion as natural. But it does not require *proof* of the naturalness of a motion before it can be discussed. In fact, that any motion is natural cannot be proved in a strict sense; it can only be discovered. Nature is itself

²⁹ *Ibid.*, 192 b 22, lect. 1.

such a fundamental principle that there is nothing more fundamental in terms of which it can be demonstrated, and the same thing is true of natural motions. In general, however, when nature is known to be the first principle of motion that proceeds from within a body, the first question that should be asked about any motion is whether or not it can be properly explained by this principle. Hypothetical conjectures about extrinsic movers are all right in their place, but they have no place obscuring the proper order of investigation into the world of nature. That any motion is natural cannot be demonstrated, but it can be recognized, and when the available evidence is in its favor, it is quite unscientific to overlook this evidence for a hypothetical mechanical explanation that neglects the most obvious features of the motion.³⁰

Yet for those who remain unconvinced that gravitational motion is a natural motion, it is still possible to argue against this antinomy by questioning the physical reality of gravitational attraction, for this is something that has never been proved. One of the best indications of this is that Newton, who first used the concept, over and over again explains that it is only a mathematical device, to which he sees no reason for assigning a physical reality. If he thought that its physical existence could not be proved, and repeatedly warned against accepting it as a reality, it is foolhardy for his students to urge such a "reality" against the *prima via*.

Moreover, as far as the antinomy itself is concerned, Newton and the founders of mathematical physics would never have subscribed to it. Far from being convinced that the inverse-square law made God unnecessary, they were quite convinced that gravitational motion could only be explained by ultimate reference to God. As one Newtonian scholar has written:

He (Newton) points to the necessary existence of some active principle of force which would conserve and compensate lost motion. Newton did not take very seriously the attempt to explain this conservation mechanically, as has been noted above from his

³⁰ *Ibid.*, 193 a 2, lect. 1.

letters to Bentley, saying that gravitation must be caused by an agent following certain laws. He is willing to have Cotes refer to the fact that it is the Creator who by his will produces gravitational action. The same references are to be found in the words written by Newton himself, and in the writings of Newton's best defenders; also Samuel Hosley, the editor of Newton's *Opera*, says that the originator and sustainer of gravity is not material but divine, and that Newton did not explain his laws of motion in terms of repulsion but in terms of immaterial causes, not perceivable to the sense, but manifested to the spirit and effect of God.³¹

A confirmatory argument in the rejection of gravitational attraction, and one of particular appeal to those who favor facts over the endless multiplication of hypothetical constructions, is the fact that such an attraction has never been shielded. It is all well and good to speak of magnetic and electrical attraction, for these have physical meaning; the influence of a magnet or a charged body can be and has been shielded many times over in the laboratory. This gives indisputable evidence of the physical existence of such attraction. But the remarkable thing is that for all the advances that have been made in every field of physical research in the two and a half centuries since Newton's *Principia* first appeared, not the slightest evidence has been obtained of gravitation ever being shielded. This may be due to our appalling ignorance of facts concerning the physical world, it is true, but it is certainly no less likely that it is due to a fundamental misconception of gravitation itself.

Further, if any additional proof be needed for those who would identify mathematical concepts with the physical reality they so accurately describe, new developments in theoretical physics also disregard the theory of gravitational attraction. For instance, "least action" concepts as developed by Hamilton can be used to give a very elegant treatment of gravitational phenomena, with no mention of attractive forces. One of Hamilton's basic notions is that all bodies try to reach a place of least potential energy, and in so doing, seek

³¹ A. J. Snow, *Matter and Gravity in Newton's Physical Philosophy* (London: Oxford Univ. Press, 1926), pp. 162-163.

the path that involves the least work. This is the principle of least action, which Bertrand Russell has named the "law of cosmic laziness." When the energy equations are written and calculations are made of the paths of falling bodies, for instance, exactly the same results are attained by Hamilton's method as by the use of Newtonian equations.³² This again reveals the superfluous character of attraction concepts.

Another development along the same line, perhaps more startling in its experimental confirmations, is Einstein's theory of General Relativity. This theory does not regard gravitational motion as something initiated by a pull extrinsic to the body itself, but rather conceives the whole motion as an "event" in the space-time continuum. A physical evaluation of this theory will not be attempted here; it suffices to note only that its mathematical formulation is made without reference to any attractive forces. And yet calculations made with Einstein's equations give results that not only approximate Newton's predictions, but in three now classical experiments give a more accurate description of phenomena.³³

The solution to the first antinomy should thus be clear. It is based on a false, or at best, an arbitrarily taken supposition, namely, that gravitational motion is a violent or compulsory motion caused solely by the mechanical pull of another body. A more penetrating analysis of all that is involved in this type of motion reveals that it is properly a natural motion, proceeding from an intrinsic principle within the body. And like all other natural motions, it requires physical pre-motion by the Author of Nature, either directly or at least through an intrinsically subordinated chain of moved movers, at each instant of its motion.³⁴ It is possible that this causality be exercised

³² Cf. A. G. Van Melsen, *The Philosophy of Nature* (Pittsburgh: Duquesne Univ. Press, 1953), p. 161.

³³ The three experimental verifications offered by Einstein were: (1) the advance of the perihelion of the planet Mercury, (2) the deflection of a beam of light passing the limb of the sun, and (3) the shift of spectral lines in the gravitational field of the sun. Cf. G. Rainich, *The Mathematics of Relativity* (New York: John Wiley, 1950), pp. 159-167.

³⁴ The details of this proof constitute the positive exposition of the *prima via*,

instrumentally through some corporeal medium, or even through surrounding physical bodies. But these can never be the adequate efficient cause of gravitational motion, any more than a baseball bat, of and by itself, can be the adequate efficient cause of the motion of a baseball.

Moreover, there can be no conflict between this explanation and the methods used by Newton to derive the inverse-square law. This particular law, as a physico-mathematical relation between various measurable properties following on gravitational motion, *abstracts* completely from an efficient mover.³⁵ It does not deny the existence of such a mover, it does not reject one mover or even a system of movers. It merely states an equality that is found to obtain when the resulting motion is described mathematically. Therefore it does not follow that a mutual "attractive force" gives an adequate physical explanation of gravitational motion. The inverse-square law does not dispense with a single mover in an intrinsically subordinated chain, let alone manifest the superfluity of God, and anyone who would speak as though it did is only creating for himself an apparent difficulty.

* * * * *

SECOND ANTINOMY: *According to Newton's first law of motion, a body in uniform rectilinear motion will continue in that motion indefinitely unless acted upon by an external force. But such a body is sufficiently moved by its own inertia and does not require an external mover. Therefore it is not true that whatever is moved must be moved by another, and thus the proof for God's existence based on this principle must be rejected.*³⁶

which can be illustrated and understood on its own merits, quite apart from the peculiar difficulties associated with gravitational motion. Cf. *Summa Theol.*, I, q. 2, a. 3; *I Cont. Gent.*, c. 13; *VII et VIII Physic.*

³⁵ Cf. J. A. Weisheipl, O.P., "Natural and Compulsory Movement," *The New Scholasticism*, XXIX (1955), 80, and also the two other excellent articles by the same author: "The Concept of Nature," *ibid.*, XXVIII (1954), 377-408, and "Space and Gravitation," *ibid.*, XXIX (1955), 175-223.

³⁶ This is basically Whittaker's rejection of the *prima via*. Cf. *Space and Spirit*, p. 47.

This antinomy is built around the concept of inertia in much the same way as the first antinomy employed the concept of gravitational attraction. In a sense, however, it presents a more straightforward argument. The force of the objection would seem to follow directly from the principle of inertia, enunciated as the first law of motion, and not from a particular interpretation of an equation such as the inverse-square relation. Further, since no equation is mentioned explicitly, it would appear that the distinction between physical and mathematical principles invoked in the solution of the first antinomy cannot be applied in this case. Finally, the first law of motion is simply stated by Newton at the beginning of his technical exposition of the *Principia*, with no detailed derivation and with no extended argumentation in its justification. Thus it would appear that he thought it sufficiently obvious and self-evident to be accepted immediately at the beginning of the tract. Therefore the arguments that were used in the solution of the first antinomy drawn from Newton's own admissions would not seem to be applicable in this case.

These observations highlight the additional difficulties present in the second antinomy, and at the same time point out the main problems that have to be solved before the antinomy can be resolved. As in the preceding solution, the textual approach will serve as a good introduction to these problems, so it will be convenient to begin with a discussion of the first law of motion and the position it occupies in Newton's *Principia*.

Newton entitled his work, as will be recalled, the *Mathematical Principles of Natural Philosophy*. Yet he did not write it as a modern textbook with a long list of equations functioning in each derivation. Rather he started out with a few definitions of basic concepts, then stated the three laws of motion and their corollaries, and immediately launched into the various propositions that could be deduced reasonably from these principles and their consequents. Some propositions functioned for him as theorems and lemmas, and others were introduced

merely as problems. But all propositions were stated in words; except for an occasional proportion, all his derivations are described in the expositive form of an essay without the mathematical derivations that characterize present-day treatises on mechanics. The point is of historical interest, but it also accents a significant detail. The absence of an explicit mathematical equation does not indicate the absence of a mathematical principle. Because a principle or law is stated in words does not indicate that it is not basically mathematical, or at least founded on mathematical presuppositions.

Newton stated the first law of motion, which was the very first of his "Mathematical Principles," in these words:

Law I: Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it.³⁷

On face value, there is nothing in this statement that would seem to imply that it is a mathematical principle. It should be noted, however, that this law has been preceded in Newton's text by eight Definitions and one Scholium, though of all the terms mentioned in the law, only one is considered in the definitions, viz., "forces." Yet this may be of some significance, for Newton does state in Definition VIII: "I here design only to give a mathematical notion of those forces, without considering their physical causes and seats."³⁸ This may be a clue to the solution, but at best it is only a clue, for the term "forces" does not seem to enter essentially into the statement of the first law. It plays only a negative or accidental role. What the first law states is that *without* these forces, even mathematically considered, a body will continue in its state of rest or of uniform motion in a right line. The real problem is the first part of the principle of inertia. How is this to be conceived? Is it physico-mathematical or purely physical, and if the former, in what precise sense does mathematics enter into it? This is the key problem involved in the principle of inertia

³⁷ *Mathematical Principles*, p. 14.

³⁸ *Ibid.*, p. 8.

from the viewpoint of a foundational physics, and quite fundamental to the solution of the second antinomy.

There can be no doubt that the principle of inertia, as we shall henceforth designate the first law of motion, is not a physico-mathematical principle in the sense that it will ever enter explicitly into an equation of mathematical physics. There is no way of writing it in the form of an equation, and it does not seem to express an equality that could be of any use in any other equation. At best it tells what can be left out of another equation, and this is hardly a positive contribution. As far as the positive, formal principles that bear directly on the derivation of conclusions of mathematical physics are concerned, the principle of inertia should not be included among them.

Yet the principle itself has some positive content. Moreover, it states what obtains in a *limiting* case, and thus presupposes the use of a limit concept in its derivation. And since such limit concepts pertain more to mathematical modes of reasoning than to physical ones, the principle of inertia is more physico-mathematical than it is physical. Thus Newton was justified in enumerating it first among the mathematical principles of natural philosophy.

As a matter of fact, the concept of a body proceeding in a uniform motion in a straight line to infinity is mentioned by Newton in his explanation of Definition V even before he states it in the first law. In the discussion following this definition, which defines a centripetal force as that by which bodies tend towards a point as to a center, he also gives clear indication of the reasoning which led to the statement of the principle of inertia. He says in part:

That force . . . by which the sling continually draws back the stone towards the hand, and retains it in its orbit, because it is directed to the hand as the center of the orbit, I call the centripetal force. And the same thing is to be understood of all bodies, revolved in any orbits. They all endeavor to recede from the centers of their orbits; and were it not for the opposition of a contrary force which restrains them to, and detains them in their orbits, which I therefore

call centripetal, would fly off in right lines, with an uniform motion. A projectile, if it were not for the force of gravity, would not deviate towards the earth, but would go off from it in a right line, and that with an uniform motion, if the resistance of the air was taken away. It is by its gravity that it is drawn aside continually from its rectilinear course, and made to deviate towards the earth, more or less, according to the force of its gravity, and the velocity of its motion. The less the gravity is, or the quantity of its matter, or the greater the velocity with which it is projected, the less will it deviate from a rectilinear course, and the farther will it go.³⁹

Before giving the rest of this citation, it will be well to point out that the last sentence states the empirical basis for the first law, for it states something that can be observed experimentally. It also shows how this empirical basis is to be used in reaching a limit concept, insofar as the approach to the limit is stated as a proportion. The less the gravity or the greater the velocity, Newton notes, the less the deviation from rectilinearity and the farther the projectile will go. This is a true observation as far as it goes, and it sets up the conceptual framework for approaching the limit. Newton continues:

If a leaden ball, projected from the top of a mountain by the force of gunpowder, with a given velocity, and in a direction parallel to the horizon, is carried in a curved line to the distance of two miles before it falls to the ground; the same, if the resistance of the air were taken away, with a double or decuple velocity, would fly twice or ten times as far. And by increasing the velocity, we may at pleasure increase the distance to which it might be projected, and diminish the curvature of the line which it might describe, till at last it should fall at the distance of 10, 30 or 90 degrees, or even might go quite round the whole earth before it falls; or lastly, so that it might never fall to the earth, but go forwards into the celestial spaces, and proceed in its motion *ad infinitum*.⁴⁰

Here he continues to apply the proportion, increases the velocity at pleasure and at the same time allows the air resistance to go to zero, and thus concludes to the limiting case; the projectile will proceed in its motion *in infinitum*. This

³⁹ *Ibid.*, p. 6.

⁴⁰ *Ibid.*

reasoning process is not completely original with Newton; Galileo, in his "Discourses on Two New Sciences," had discussed similar situations and had shown how limit concepts could lead to interesting conclusions.⁴¹ But Newton's genius consisted in this: he did not restrict himself to the mathematical proportion involved in approaching the limit, but rather concentrated on the limiting case itself. He stated the limiting case as a general principle for all local motion when he formulated the first law.

As should be evident from this analysis, the principle of inertia is actually a conclusion, an inference drawn from a physico-mathematical approach to a limit, and for this reason is not a purely physical principle but is itself physico-mathematical. A more rigorous statement of the approach to the limit that is actually involved would be this: the distance a projectile will travel in a resistive medium under a given impulse is an inverse function of the resistance of the medium. Similarly, the limiting case might be stated: as the resistance of the medium goes to zero, the distance travelled goes to infinity.

Examining the principle of inertia in the light of this analysis, then, it can be seen that it is neither a self-evident principle nor demonstrable. The reason why it is not self-evident is simple enough. It is never found in ordinary experience that a body in uniform motion continues in such motion indefinitely. All the bodies met with in ordinary experience encounter resistive forces in their travel, and sooner or later come to rest. Nor does refined experimentation and research supply any instances where such resistive forces are absent. The best vacuums attainable in well-equipped laboratories are still quite gross, and present-day information about so-called "empty" interstellar space indicates that the rarest matter density that can be expected there is one nuclear particle per cubic centimeter. So it would appear that resistive media are a quite universal phenomenon.

⁴¹ E. g., *Discourses*, Third Day, prob. IX, prop. 23, Scholium.

But it might be objected that this is to overlook the second half of the principle enunciated explicitly by Newton, viz., "unless it is compelled to change that state (uniform motion) by forces impressed upon it." When this is taken into account, although it might be conceded that the first part is not evident to sense experience or to laboratory measurement, the entire principle seems evident to reason, to rational analysis. Unfortunately, however, this type of self-evidence must be rejected too. The second half of the statement cannot be taken as confirmatory of the first half, even when rationally considered. When the first half is considered in the light of the second half, all that is left is the statement, made notorious by Eddington, that "every particle continues in its state of rest or uniform motion in a straight line, except insofar as it doesn't."⁴² Literally correct, no doubt, but hardly a first principle on which to build a mathematical physics.

The principle of inertia is not self-evident, then; furthermore it cannot be demonstrated, for there is no way of proving that it is true. Another way of saying the same thing is that the principle of inertia is a dialectical principle, and this by reason of the limit concept involved in its verification. The principle, as has already been noted, is an inference from observational data by means of a limit concept. The observational data are certainly true, but the only way in which it may be maintained that the limiting case is also true would be by maintaining that what is verified in the approach to a limit is also verified at the limit itself. The latter statement, however, cannot be maintained, because it is not universally true. There are many instances in mathematics where it is known to be violated. One illustration is the approach of polygon to circle as the number of sides is increased indefinitely. All through the approach to the limit, assuming the simple case where all figures are inscribed in the limiting circle, every figure constructed that has a finite number of sides is a polygon. The

⁴² *The Nature of the Physical World* (New York: The Macmillan Company, 1937), p. 124.

limiting case is a figure of a different species, it is no longer a polygon, but a circle. It is not true to say that a polygon is a circle; the difference is as basic and irreducible as that between the discrete and the continuous. In this case, what is verified in the approach to the limit (polygon), is not verified at the limit itself (circle).

Now if it is not *always* true that what is verified during the approach is necessarily verified at the limit, and indeed there are excellent arguments to show that it can *never* be true,⁴³ then the fact that the observational base for the principle of inertia is true cannot be used to prove, or demonstrate, that the limiting case stated in the principle is also true. Thus it remains that the first law as stated by Newton is neither self-evident nor demonstrable, and as such is not certainly verifiable of physical phenomena in the real world.⁴⁴

But this does not necessarily derogate from the utility of the principle of inertia as a physico-mathematical principle. What it does indicate is that this principle does not have the broad applicability of a generalized physical principle that would be universally verified in all real motions. Rather it gives an idealized account of local motion that abstracts from extrinsic factors present in the real world and affecting such motion. And since it abstracts from extrinsic factors acting on real bodies moving in a physical environment, it should not be surprising that it also abstracts from efficient causality influencing the body in its motion.

In point of fact, in all observable cases in the real world, an extrinsic mover is needed in order to have a motion that is exactly uniform. The reason is obvious from what has been said above about resistance being present throughout the known universe, and therefore the need for such a mover is quite consistent with the statement of the first law. Resistance is always encountered from objects extrinsic to the thing moved, and to

⁴³ Cf. J. Lalor, O. F. M., *The Concept of Limit* (unpublished doctoral dissertation; Quebec: Université Laval, n. d.).

⁴⁴ Cf. Weisheipl, "Natural and Compulsory Movement," *loc. cit.*, p. 72.

overcome the decelerating effect of this, an extrinsic force will have to continue to be applied to the object being moved. Of course, it is possible to *abstract* from this resistance, and *conceive* of a body moving uniformly without reference to its external physical situation. But when one does this, it is very analogous to conceiving of a body at some arbitrary temperature in the real world that maintains this temperature indefinitely despite any changes of temperature occurring around it. It is all well and good to conceive of insulators that suppositionally isolate it from the real world, but all physicists know that such insulators do not exist in practice. Making the supposition eliminates the problem of a heat source to maintain the body at the given temperature, but it does this only in the mind of the physicist. The same thing goes, *mutatis mutandis*, for idealized local motion. If one makes a supposition that eliminates thinking about extrinsic movers, then for him they do not exist, but that does not eliminate their necessity in the real world.

It might be objected that what has been said here is true enough if one wishes to be a rigorist and speak of motions that are *exactly* uniform. However, it would seem that Newtonian physics does not attempt to give an exact account of the physical universe, but only an approximate account. Therefore, if the motions of stars and planets are considered, or of projectiles in very rare media, they will actually decelerate slightly, but the resistance is so small that in practice it can be neglected. Thus the motion that is in practice referred to as uniform, though in fact slightly decelerated, does not require an extrinsic mover, but is sufficiently accounted for by the inertia of the moving body.

The answer to this further difficulty, like the basic answer to the difficulty of gravitational attraction, must be given in terms of a generalized science of nature such as that developed by Aristotle and Saint Thomas. In fact, there is a marked similarity between the two cases, as will become apparent in the development below. But there is also a considerable difference, and it will be well to make this clear at the outset.

Inertial motion is universally taken as opposed to gravitational motion. The latter is usually referred to as "free" or natural motion, while the former is "forced" or compulsory motion. In the strict understanding of natural motion, it is called such because it proceeds from the nature of the body itself, it proceeds in some way from within the body undergoing the motion. Compulsory motion, on the other hand, is imposed from without; it is violent, it is contrary to the natural inclination of the body being moved. The reason why it is recognized as not being a natural motion is that it does not fulfill the conditions mentioned above as associated with all natural motions, viz., it is not from within, nor spontaneous, nor is it uniform in its action, nor does it always tend to the same term characteristic of the particular body. Obviously, if a motion is a composite of gravitational and inertial components, care will have to be taken to isolate what comes from nature from what is imposed from without. But assuming, in the spirit of the difficulty that has been proposed, an inertial or compulsory motion in which gravitational tendencies can be neglected, these conditions will also be lacking. The inertial motion does not originate from within, but rather from without. It is not spontaneous, but is initially forced and sluggish. It is not uniform in its action for any particular body, for the same projectile may be thrown fast or slow, it may be rolled or spun, it may be juggled back and forth. And it is not directed to a place determined by the particular body and its physical environment, for it may be directed now up, now down, now in any direction conceivable for a three-dimensional vector. Thus inertial motion is not natural motion.

Yet there seems to be something about inertial motion that is similar to natural motion. When a projectile is thrown, it appears that an impulse is imparted to it by the thrower, and impulse further appears to be in some way the source of its motion. Again, once initiated, the motion proceeds in a uniform fashion for that particular impulse, and moreover, it proceeds in a very determined direction. It is true that it does not seek

a compatible place in a particular physical environment, but there does not seem to be any doubt of an inherent tendency in a particular direction. And this direction is not necessarily that intended in the mind of the thrower, but appears to be objectively realized in the thing thrown; otherwise it is extremely difficult to understand how there can be such a thing as poor marksmanship. What is objectively realized does not have the perfectly determined tendency of a nature, but it nonetheless has an inherent tendency sufficient to make the physicist realize that momentum is a vector.

These reasons impel us to argue that there is associated with inertial motion an impulse that is analogous to the impulse of gravity found in natural gravitational motion.⁴⁵ In a sense, this impulse is a sort of "second nature." It is not natural as coming from within the body itself. Rather, it is more like a behavior pattern induced in animals from without, by training or by continued application of certain stimuli. Still it is different from this, because all material bodies have an *immediate* susceptibility for the impulse of inertial motion. And further, once it has been imparted to a body, there appears to be no reason to believe that it would not perdure endlessly, unless overcome by something extrinsic encountered in the course of its motion, which however is always the case in our experience.⁴⁶

Now, granted the existence of such an impulse associated with inertial motion, it is important to realize that even this impulse needs an extrinsic mover in order to sustain the motion efficiently. The reason is basically the same as that advanced for an extrinsic mover in natural gravitational motion. Just as

⁴⁵ Cf. Dominicus de Soto; *Super octo libros Physicorum Quaestiones* (Salamanca, 1551), Lib. VIII, q. 3, fol. 104v-105v.

⁴⁶ The precise entitative status of this impulse is disputed among Thomists, as is the subject of its inherence, some maintaining that it is in the medium surrounding the projectile, others that it is in the projectile itself. For a summary of opinions, cf. A. Rozwadowski, S. J., "De motus localis causa proxima secundum principia S. Thomae," *Divus Thomas Piacenza*, XVI (1939), 104-114; P. Hoenen, S. J., *Cosmologia* (4th ed., Roma: Aedes Pont. Univ. Gregorianae, 1949), pp. 482-501. Father Weisheipl has a good evaluation of these opinions in "Natural and Compulsory Movement," *loc. cit.*, pp. 52-61.

the nature itself requires an extrinsic mover, so the "second nature" which is a modification of the nature must be actuated from without. Both are principles in the order of formal or material causality, and both therefore require actuation in the order of efficient causality in order to be continually operative.⁴⁷

When abstraction is made from such an efficient agent, of course, it is possible to conceive of the impulse itself as an inertia, as some type of explanation of the compulsory motion, and it is possible to speak also of measures of this, such as momentum. Such measures will be useful in accounting for the apparent uniformity of the motion, for estimating the potentiality of the thing moved in originating other motions, etc. But neither inertia nor momentum sufficiently accounts for the entire motion any more than a body's gravity can completely account for its fall.

Further, far from the principle of inertia disproving the existence of God, the more one tries to verify this principle, the more one is led to affirm the existence of an infinite Mover. If all the idealized concepts that have been discussed be granted, and the idealized case be considered as physically real, then not only is *some* extrinsic mover required, but also one of infinite power, and this can only be God. The reason for this is based on the proportionality that must exist between cause and effect. If it be maintained that a finite impulse can impart a motion that will perdure *ad infinitum*, this is to hold that an infinite effect can proceed from a finite cause.⁴⁸ Since such a position is untenable, if the principle of inertia in this understanding is to be maintained, it must be held that the cause is finite from the part of the formal cause (the impulse), but infinite from the part of the efficient mover that sustains the motion. And such an infinite efficient mover would be none other than God. Thus the principle itself, taken in the most realistic sense possible, leads to the postulation of a first unmoved Mover.

⁴⁷ Cf. Weisheipl, "The Concept of Nature," *loc. cit.*

⁴⁸ Cf. R. Garrigou-Lagrange, O.P., *God: His Existence and His Nature* (London: B. Herder, 1938), II, 447-452.

Now it may come as a surprise to the modern physicist, but this explanation that has been offered is quite consistent with what Newton himself thought about inertial motion. It is true that he does not explicitly mention an extrinsic principle for such motion in his discussions throughout the *Principia*, apart from what he says generally about God as the universal Mover and to which we will refer in the solution of the third antinomy. But in his animadversions on mechanics that occur at the end of the *Optics*, he does explicitly clear up any misunderstanding that might exist about his position on inertial motion, quite apart from his reservations on gravitational motion. He states:

The *vis inertiae* is a passive principle by which bodies persist in their motion or rest, receive motion in proportion to the force impressing it, and resist as much as they are resisted. By this principle alone there never could be any motion in the world. Some other principle was necessary for putting bodies into motion; and now they are in motion, some other principle is necessary for conserving the motion.⁴⁹

A clearer statement could not be made about the necessity of an extrinsic mover, not only at the beginning of inertial motion, but also at every instant throughout that motion. The evidence is thus indisputable that Newton would not have rejected the fundamental principle, "whatever is moved is moved by another," on the basis of the law he was first to enunciate.

The solution to the second antinomy should therefore be clear. The first law of motion and the concept of inertia that it involves state only partial truths. They are not verified of an entire physical reality, but rather abstract from efficient causality and its relation to compulsory motion. Although not explicitly mathematical, they nevertheless are based on a physico-mathematical reasoning process and invoke a limit concept in their verification. Because of the dialectical aspect of the approach to the limit, the principle of inertia cannot be proved to be true in a complete and self-sufficient sense. Nor is it

⁴⁹ *Optics*, p. 540.

evident either to experiment or to reason. Consequently it cannot be invoked as a certain argument against the validity of the foundational principle: whatever is moved must be moved by another.

Further, looking at the truth contained in the first law from the vantage point we have now attained, it can be seen that the former attains its full stature and most intelligent justification when understood as requiring the continued application of an extrinsic mover. The latter mover's influence may not be directly measurable, but it is knowable. Although it is not known to modern physicists, moreover, it was known to Newton, the father of their science, who knew better than they the limitations of the principles he first formulated. Far from undermining the motor causality principle, it furnishes yet another instance of its universal verification. The principle still stands, and along with it the proof for God's existence from motion in the universe—motion both gravitational, *and* inertial.

* * * * *

THIRD ANTINOMY: *To every action, there must correspond an equal and opposite reaction. But there can be no such interaction between any body and an incorporeal mover. Therefore it is impossible that motion proceed from an incorporeal mover, and any proof that would terminate with such a mover must be rejected.*

The third antinomy does not contain difficulties of the magnitude of those presented by the first two. It is not, like them, directed at the fundamental principles which function as the premises of the *prima via*. Rather it raises a question about the term of the proof, and this in a general way. It proposes that there can be no such thing as an incorporeal mover, and thus jeopardizes the proof by maintaining that it reaches a nonsensical conclusion.⁵⁰

⁵⁰ The attitude of mind underlying this objection is characteristic of logical positivism and operationalism, both of which would categorize an incorporeal mover as a "meaningless concept."

The answer to this antinomy, as to the preceding ones, is suggested by Newton's treatment of the problem in his development of the *Principia*. Actually, he does not state the action-reaction principle in the very broad and general way in which it is employed in the antinomy, but restricts it specifically to actions where two bodies are involved. His original statement of the third law is this:

Law III: To every action there is always opposed an equal reaction: or, the mutual actions of two bodies upon each other are always equal, and directed to contrary parts.⁵¹

His explanation of the law also makes clear that he is excepting the case of incorporeal movers from its ambit, for the only illustrations he furnishes in justification of the action-reaction principle involve corporeal movers. Thus he states:

Whatever draws or presses another is as much drawn or pressed by the other. If you press a stone with your finger, the finger is also pressed by the stone. If a horse draws a stone tied to a rope, the horse (if I may so say) will be equally drawn back towards the stone; for the distended rope, by the same endeavor to relax or unbend itself, will draw the horse as much towards the stone as it does the stone towards the horse, and will obstruct the progress of the one as much as it advances that of the other. If a body impinge upon another, and by its force change the motion of the other, that body also (because of the equality of the mutual pressure) will undergo an equal change, in its own motion, towards the contrary part.⁵²

It is interesting to note here that of the three instances that Newton uses for exemplification of the principle, two concern cases where bodies are in physical contact, and the third is clearly an instance of an intrinsically subordinated instrumental motion, *viz.*, the case of the horse pulling a stone by means of a rope. We shall have occasion to return to this later, but for the moment it will suffice to note that all are concerned with corporeal movers.

⁵¹ *Mathematical Principles*, p. 14.

⁵² *Ibid.*

Now it may be maintained that Newton restricts himself to corporeal movers in this principle because he is convinced that these are the only type of movers that exist, and so it would be nonsensical to refer to incorporeal movers in his *Principia*. Or the possibility suggests itself that he himself might have *believed* in incorporeal movers, but that he did not think they had any place in physical science, and therefore left them out of consideration. Both of these hypotheses, however, are untenable in the light of explicit citations from the great scientist.

As to the existence of incorporeal and immaterial entities in the physical universe, he takes the general position that such things do exist. For instance, in discussing his meaning of attraction in one of the texts already referred to, he states: "I here use the word *attraction* in general for any endeavor whatever . . . whether it arises from the action of the ether or of the air, or of any medium whatever, whether corporeal or incorporeal."⁵³ Again, in a letter to Bentley after the first edition of the *Principia* had appeared, he mentions: "Gravity must be caused by an agent acting constantly according to certain laws; but whether this agent be material or immaterial, I have left to the consideration of my readers."⁵⁴ A person who was convinced that material movers were the only type that existed would never make the allowances explicit in these statements.

Beyond this, it is further evident that Newton attributed actual dominion to the supreme Being over all the workings of the physical universe, and this for him also included motion. Insofar as God was the mover and governor of the universe, He also pertained to the realm of physical science. Newton makes these ideas explicit in the General Scholium which he wrote at the end of the third book of the *Principia*, where he is at pains to exclude the type of interpretation of his opus which is at the root of the antinomy now under discussion. Some citations which bear this out are the following:

⁵³ *Ibid.*, p. 130.

⁵⁴ *Correspondence of Sir Isaac Newton and Professor Cotes*, p. 159.

It is not to be conceived that mere mechanical causes could give birth to so many regular motions. . . . This most beautiful system of the sun, planets, and comets, could only proceed from the counsel and dominion of an intelligent and powerful Being.⁵⁵

It is the dominion of a spiritual being which constitutes a God. . . . And from his true dominion it follows that the true God is a living, intelligent, and powerful Being; and, from his other perfections, that he is supreme, and most perfect.⁵⁶

In him (God) are all things contained and moved; yet neither affects the other: God suffers nothing from the motion of bodies; bodies find no resistance from the omnipresence of God.⁵⁷

He (God) is utterly void of all body and bodily figure, and can therefore neither be seen, nor heard, nor touched; . . . We have ideas of his attributes, but what the real substance of anything is we know not . . . all our notions of God are taken from the ways of mankind by a certain similitude, which, though not perfect, has some likeness, however. And thus much concerning God; to discourse of whom from the appearances of things, does certainly belong to Natural Philosophy.⁵⁸

The very last sentence indicates the relevance of God to physical science in Newton's estimation, for his use of the term "natural philosophy" was equivalent to our understanding of physics and astronomy. And the citation stating that God moves all things, "yet neither affects the other: God suffers nothing from the motion of bodies, etc.," supplies his direct answer to the third antinomy.

As should be clear now from the distinctions that have been made in the solution of the previous difficulties, the action-reaction principle is a physico-mathematical relation that holds only between quantified bodies that are already being moved by some physical agent. It merely stresses the mathematical symmetry involved in the transmission of mechanical impulses, and this is wholly consistent with what one would expect in terms of more fundamental principles. If bodies are in contact and an impulse is being transmitted, obviously its metrical aspects are the same whether it be looked at from the viewpoint

⁵⁵ *Mathematical Principles*, p. 369.

⁵⁷ *Ibid.*

⁵⁶ *Ibid.*, p. 370.

⁵⁸ *Ibid.*

of the transmitter or the receptor. And the same thing is true if a physical case is being considered where a motion is being transmitted by a series of connected instruments. Here, as can be seen on a moment's reflection, there is specifically only one motion involved. One should therefore not be surprised if its metrical aspects will be the same in each of the transmitting instruments.

It is further true that the action-reaction principle, precisely as physico-mathematical, can also be extended to the two-body problem in the case of gravitational motion. For instance, if two bodies in a given physical environment approach each other in seeking their natural places in accordance with the inverse-square law, there is a certain mathematical symmetry about the phenomenon. As far as the mathematics is concerned, it makes no difference whether one is conceived at rest while the other approaches, or the second is at rest while the first approaches, or both approach each other. And if either of the first two cases are to be conceived in terms of "attractive forces," evidently the latter will manifest the same equality as the motions. Thus the action-reaction principle can be applied to "attractive forces" in gravitational motion, and it will be found to be operationally verifiable.

But while this is a valid principle of mathematical physics, it is not true when the total reality is considered, it cannot be taken as a strict physical principle of universal validity. The reason is simple enough. If there is a strict equality between agent and receptor, there can be no motion. Nothing dynamically new can proceed from strict equality. One rope, of and by itself, cannot pull another rope. That is the reason Newton, in explaining the third law as cited above, makes a slight excuse for the example of the horse drawing a stone by a rope. He says, ". . . the horse (if I may so say) will be equally drawn back towards the stone. . ." The reason he inserts "if I may so say" is that there is a big difference between the horse and the rope and the stone when all three are considered physically. A rope, of and by itself, cannot pull a horse, but a horse can

pull not only the rope but also something tied to it. If abstraction is to be made from this fact for the purposes of noting physico-mathematical equalities, all well and good. But the physical reality contains much more than the physico-mathematical equality.

The obvious answer to the third antinomy then is that it is based on a misunderstanding of the third law of motion. The physico-mathematical character of the action-reaction principle accents the fact that it abstracts from efficient movers considered in their physical totality. It neglects all movers except bodies already in local motion, and then only seeks an equality that is verified of the moving parts. It abstracts from the movers that form the subject matter of the *prima via*, but it does not reject them. Indeed, it presupposes them, for Newton's third law of motion, like his other two, has its only solid foundation and ultimate justification in the physical movers which lead their discoverer inexorably to the existence of God.

* * * * *

This completes the resolution of the three Newtonian antinomies. Apart from their utility in penetrating the *prima via* through a more thorough understanding of local motion, they also contain a message for the modern physicist. For it should be clear now that the scope and intent of the science Newton proposed never was clearly grasped by his successors. The many generations of physicists who now are referred to as "classical physicists" concentrated on the physico-mathematical aspects of his *Principia*, to the neglect of the further ordination that Newton made of the new science to discovering true physical causes.Flushed by early successes in predicting the details of many macroscopic phenomena, they saw the physico-mathematical technique for the powerful tool that it was, and then forgot that it was only a tool. Not possessing the traditional foundation in which Newton himself was grounded, they read too much into the father of their science. They took his mathematical principles as the total explanation of physical reality, and were content to stop where he had begun.

Needless to say, such men were not prepared for the rise of the new physics. Having slipped into the error of mathematicalism, not appreciating the methodological use of mathematics in physical science, their illusions of a facile explanation for the entire gamut of physical experience were quickly dashed to the ground. Later generations of physicists seemingly profited by their mistake, and so began anew. But the pendulum did not swing to center; its momentum carried it to the other extreme. The philosophers of the new physics still failed to grasp the importance of a generalized physical science which could give true and certain knowledge of the universe; they claimed now that *nothing* could be certain or absolute. They were content to settle for a provisional explanation of reality; hypothetical constructions and mathematical models were the "ultimate" they were willing to concede. Their concern became manifest when the rapid multiplication of postulational systems soon involved them in contradictions, and so they turned to the problem of logical consistency. Here the logical positivists began to have their day, for a super-mathematicism has become the vogue, and this in turn is nothing more than logicism.

Amid present confusions as to what is logic and what is mathematics, there are very few scientists who have intelligent notions on the basic question of what is physics. But the question has been raised anew, and there is hope that the present generation of physicists may start to work on the answer. Of all the attempts made so far, the foundational physics of Aristotle and St. Thomas alone gives full meaning to the term "physical," as opposed to "mathematical" and "physico-mathematical." Newton had sufficient knowledge of this to orient his new science properly at the outset. His sons would do well to return to where he began. Not only will they find there the answer to the nature of their science, but they will learn how such science can lead them to their God.

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EXISTENTIALISM AND THE DEGREES OF KNOWLEDGE

* * *

IN an issue of *THE THOMIST* of some time ago, Professor Max Charlesworth has shown, in an article on *The Meaning of Existentialism*, how "certain principles and distinctions drawn from the thought of St. Thomas Aquinas . . . provide a perspective for the proper appreciation of the importance of Existentialism."¹ Professor Charlesworth's main conclusions, if I understand him correctly, are to the effect that "the findings of the Existentialists are of value and can . . . be integrated into an authentic philosophy of man," and that "so long as the Existentialists keep to their own proper sphere . . . their conclusions are valid and valuable."²

But what are we to understand, in that context, by "integration"? In what sense is it true, as Prof. Charlesworth affirms, that some existentialist conclusions are "valid and valuable"? Evidently, he does not mean that existentialism can be integrated with an authentic philosophy of the nature of man by way of fusion or merger; otherwise he would not warn us of the "fundamental confusion of Existentialism" between the metaphysical and the existential, and that "the error of the Existentialists consists in merging the metaphysical order into the existential order."³ The implication, it seems, is that there is some distinction between these two orders: if so, what is this distinction and how can the two orders of knowledge be integrated? And again, evidently Prof. Charlesworth does not believe that some conclusions of existentialism are valid *as they stand* and as they are meant by the existentialists;

¹ M. Charlesworth, "The Meaning of Existentialism," *THE THOMIST*, XVI (1953), 472-496; p. 472.

² *Ibid.*, p. 494.

³ *Ibid.*, pp. 486 and 490.

otherwise he would not warn us of the "absurdities" and "errors" of existentialism. The implication is, it seems, that the doctrines of existentialism must be understood only in a certain way and in a certain context before they can be considered valid and valuable: they must be understood, as he puts it, in "their own proper sphere." But precisely what is the proper sphere of existentialism?

Thus, Prof. Charlesworth's "*a priori*" approach not only puts in relief for us the importance of existentialism and suggests that Thomists should not dismiss existentialism too airily lest they get rid of the wheat along with the chaff, but also raises further problems. It raises the problem, particularly, of how Thomism can profit, if at all, by re-adapting existentialism to itself in accordance with its own needs; that is, by incorporating or digesting, if such an "integration" is possible, whatever there may be of truth in existentialism. Therefore, the enquiry which logically follows after Prof. Charlesworth's article is to examine more closely the nature of existentialism and its relations to the various philosophical sciences in order to conclude whether, and if so, under what conditions, it may be considered valid philosophical knowledge. That is precisely the purpose of this study, namely, to present and explore the question whether existentialism has a valid place within the hierarchy of the philosophical sciences as described and explained by Thomistic philosophy.

I

INTRODUCTION

We must note from the outset that although existentialism offers itself as a full-fledged system of philosophy, or indeed, sometimes as the only valid system of philosophy, we need not take existentialism's own conception and appraisal of itself in order to recognize its peculiar contribution, if any, to the perennial stream of philosophical knowledge itself. We are not required to take the existentialist's word at face value when he offers a substitute for metaphysics or for ethics or for

philosophy as a whole. It may well be that the real novelty and true philosophical value of existentialism, if any, do not consist in its being a new way to solve old problems, but rather in its being a new way to approach new problems and to attempt their solution from its own particular viewpoint. Very especially, the fact that existentialism deals with *being*—or, perhaps, even with *being as being*—need not mean that existentialism must be taken as a metaphysics or not at all. It is true that existentialists usually think, it seems, that any “doctrine of *being*,” or of “*being as such*” is metaphysics or ontology; but to show that existentialism is not true metaphysics is not to show that existentialism is not true knowledge at all; it is to show that existentialists do not know what metaphysics is.

By the same token, the erection of existentialism into a system of ethics, which seems to be a fairly common event among existentialists, should not blind us to the possibility that existentialism may have something all its own to offer, even if as ethics it is false and, perhaps, even corrupt. Of course, it is very important to demonstrate that existentialism is committing, not merely an error, but even a tragic blunder (with overtones of moral perversity) when it aspires to be metaphysics or ethics. It is even more important to show, as at least one Thomist has shown, that the metaphysical aspirations of existentialism, insofar as they are legitimate, could be realized only within the existentialist metaphysics of St. Thomas, and that, insofar as they are illegitimate, they constitute an irrational attempt to destroy the intellect itself and to substitute philosophy by the art of forcing the mind to feed on absurdity rather than on being. But once that work is done the question proposed here still comes up: is it not possible that existentialism provides us with a new and additional valid way of looking at being? Is there not a sense in which existentialist philosophy is valid and valuable knowledge? The question is important, because if the answers are in the affirmative, then existentialism—or, at least, that type of philosophical enquiry which is typical of existentialism—will have its own proper

place within the scheme of philosophy, and it will, therefore, offer its own unique contribution to philosophical knowledge: philosophy would become all the richer for it.

It may be asked, however, whether it is a legitimate procedure thus to disregard existentialism's own conception of itself. In answer, let us note that a somewhat similar procedure is followed by epistemology when it studies the positive sciences. The conception of science which is common to many scientists is false; yet, Thomists agree that the positive sciences, properly understood, have a rightful place among the degrees of knowledge. To determine the nature of science and to defend its legitimacy is not necessarily to take the view that science (i. e., positive science) is the only true knowledge or the only scientific knowledge (properly so-called) which man can acquire. Nor is it to accept uncritically each and every scientific doctrine, nor to accept each and every scientific discovery without discriminating between the scientific truth itself and whatever philosophical (or pseudo-philosophical) interpretations may be offered along with it. We do not fail to recognize (at least, not lately: we have so failed in the past) the limited, but unique, knowledge-value of the special sciences merely because some scientists (or however many; all, if you wish) seem to think that they are a substitute for metaphysics and ethics and, sometimes, even for religion. By the same token, we may very well, for our present purpose, disregard existentialism's own appraisal of its nature and its value.

Our problem, then, which is essentially an epistemological one, is to ascertain what is the nature of an existentialist philosophical analysis. Thereafter we shall have to fix the position of this type of analysis within philosophy, and to determine the order that obtains between it and the other philosophical disciplines. Now to achieve this end we shall have to make use of a standard of distinction among sciences. Thomists will agree that a science is characterized, and therefore distinguished from another science, by its peculiar "disposition with reference to

separation from matter”⁴ or, in more recent terms, by its degree of abstraction. We may otherwise refer to it as the idiosyncracy of the conceptualization which is proper to any given science, which in turn is rooted upon the type of abstraction which is distinctive and characteristic of the exercise of the science in question.⁵ Consequently, to investigate the problem of the relation of existentialism to the Thomistic scheme of the sciences we shall try to ascertain what is the *way of conceiving and defining* which is peculiar to existentialism. Thereafter, a comparison of that *characteristic mode of understanding* with those of the other degrees of philosophical knowledge will give us some indication of what their relations may be. This characterization and this comparison, in an inchoative, limited way, are what will be attempted in the remaining sections of this article.

II

ABSTRACTION IN EXISTENTIALISM

So far it has been possible for us to speak of existentialism as a philosophical genus, but if one would attempt to express in what consists its characteristic way of conceiving it would be necessary to specify exactly which of the many varieties of existentialism one has in mind. Let us, therefore, restrict existentialism, for the present purposes, to the “phenomenological ontology” of Sartre and Heidegger. What applies *simpliciter* to this type of existentialism will apply *secundum quid* to other expressions of this movement. Now, as is well known, the term “phenomenological ontology” is Sartre’s, not Heidegger’s: indeed, Heidegger would probably object strongly to the application of the name, “ontology” to the doctrine of *L’Être et le Néant*. However, that is only a question of terminology; Heideg-

⁴ St. Thomas, *In Boeth. de Trin.*, V, 1, ed. P. Wyser, p. 26, line 21; trans. A. Maurer (Toronto, 1953), p. 7.

⁵ I am taking for granted here the doctrine of John of St. Thomas concerning the distinction and unity of the sciences. See especially his *Logica*, II, Q. 27, a. 1; ed. Reiser (Turin, 1930), pp. 822-823.

ger believes that beyond his doctrine of *Sein und Zeit* there is—or there may be—an ontology properly so-called, namely, a study of being *as such*, to which *Sein und Zeit* is only propaedeutic. Sartre, on the other hand, apparently believes that the seemingly restricted and partial “doctrine of being” which can be reached through the method of phenomenology is the whole of ontology, and indeed, the whole of philosophy. The question of whether in maintaining this doctrine Sartre is more consistent with his own principles than Heidegger is with his, need not detain us at this point. The more important fact is, rather, that the ontological propaedeutic of Heidegger and the phenomenological ontology of Sartre coincide in at least this one respect: in both cases a phenomenological approach is used in order to arrive at a doctrine of the meaning of being human (or, what is the same, of being humanly or of being in a human way). It is, partly, insofar as both systems arise out of the implications of the “phenomenal field,” and insofar as both philosophies reach a *weltanschauung* concerning human existing, that they may be grouped together under the heading of existentialism.

Now, as Maritain has explained, “the central intuition at work in . . . existentialism . . . [is that] of the *nihil* whence we come and towards which we tend . . . [of ourselves]—the intuition of pure nothingness (which is the sole residue discoverable in the creature once the Creative Action has been suppressed) and of the radical absurdity of an existence uprooted from God.”⁶ We must bear these words in mind. However, for the epistemological purposes of the present enquiry we have to attend primarily, not to the *meaning* of this central intuition, but rather to the *way* in which the mind of the philosopher must work (i.e., the way in which it must abstract and conceptualize) in order to possess such an intuition. Let us suppose, therefore, that we share with the existentialist this intuition into the nothingness which is at the heart of created being, and that we agree with Maritain as to

⁶ J. Maritain, *Existence and the Existent*, (New York, 1948), p. 134.

the true meaning of that intuition: how is our mind working when it possesses such an intuition?

At this point we must remember Hegel. Being and nothing negate each other; but being and nothing are not the mere contradictions of Aristotelian logic. They are, rather, related as thesis and antithesis; that is, they are *real* contradictions and therefore at the root of the one reality, becoming, which they (by themselves only "abstractions") constitute by their very contradiction. Consequently, the nothingness of being and the being of being are one: indeed, it is the nothingness of being which constitutes the being of being.

What the existentialist is trying to do when he thinks this way is to transcend abstractive thought: he is trying, as it were, to swallow reality whole. But why? Because, having previously identified abstraction with *total* abstraction (*abstractio totalis*, in the language of Cajetan and John of St. Thomas; *extensive visualization*, in that of Yves Simon and Maritain), he has become disappointed in abstraction as a means of *discovery*.⁷ In a word, existentialists try to reject abstraction because they have seen the consequences of identifying logic and metaphysics.⁸ And the metaphysician can well sympathize: after all, no amount of logical reasoning can substitute for understanding.⁹

⁷ G. Marcel explains the existentialist disappointment in "abstraction" in his *Man Against Mass Society* (Chicago, 1952), pp. 114 ff.

⁸ Note that this identification corrupts not only metaphysics, but also logic itself. See J. Maritain, *Sept Leçons sur l'Etre* (Paris, 1954), pp. 43-44. Perhaps we should refer, instead, to the identification of metaphysics with a nominalistic or aprioristic logic.

⁹ In a well-known doctrine which is cardinal for the proper understanding of the nature of metaphysics, St. Thomas explains that metaphysics is said to proceed "according to the mode of intellect" (*intellectualiter*) rather than "according to the mode of reason" (*rationabiliter*); for it is clear that ". . . rationalis consideratio ad intellectualem terminatur secundum viam resolutionis, in quantum ratio ex multis colligit unam et simplicem veritatem. Et rursum, intellectualis consideratio est principium rationalis secundum viam compositionis vel inventionis, in quantum intellectus in uno multitudinem comprehendit. Illa ergo consideratio, quae est terminus totius humanae ratiocinationis, maxime est intellectualis consideratio." (*In Boeth. de Trin.*, VI, 1; ed. P. Wyser, p. 60, lines 12-18). However, it should be

But is there any alternative to abstractive thought? As a matter of fact, says the existentialist, there is an alternative: I can transcend abstraction if I can bring myself to break away from logic, even from the logic of Hegel. Indeed, as we have just seen, the logic of Hegel has taught me this much, which I will save after discarding the systematic wrappings in which it is offered: I transcend abstraction when I realize, when I become *immediately* aware, when I feel in the marrow of my bones, indeed, when I directly experience and actually *live* the truth that nothingness is the being of being. It is by living this truth, by *being* this truth that I can reach being. And so, my experience of nothingness (however arrived at: through dread, consciousness, or what you will) reveals to me the mystery of being.

Thus, after the logic of Hegel, (which is at the same time the last refuge of rationalism and the point of origin of irrationalism), the existentialist is literally free to think and philosophize about existing being and not merely about concepts, for he will not be restricted by contradiction nor repelled by absurdity when he has just discovered that existing itself is contradiction and absurdity. This freedom, he says, is one with his freedom from abstraction. For those of us, however, who are aware of the distinction between total abstraction and *formal abstraction* or *intensive visualization*, the existentialist way of thinking remains abstractive regardless of its avowed emancipation from logical categories. We may still speak, therefore, of existentialist abstraction and conceptualization.

How, then, does the existentialist conceive existing? How does his mind work when he possesses the intuition of existing which we have just studied? Strikingly enough, the existentialist conceives existing in much the same way as the ordinary man does (albeit the former does so habitually, and the latter only occasionally and rarely) when the latter, for example,

noted that ". . . intellectualiter procedere non attribuitur scientiae divinae, quasi ipsa non ratiocinetur procedendo de principiis ad conclusiones, sed quia ejus ratiocinatio est intellectuali considerationi propinquissima, et conclusiones ejus principiis." (*Ibid.*, p. 61, lines 7-10).

complains about "leading a difficult existence" or when he describes with deep concern (and not merely outwardly) "the vicissitudes of his existence" or how he has managed to "eke out his existence." Beyond the simple, vague, everyday meaning of being and existing, beyond that *esse* which everyone takes for granted and without which no thought or speech is possible, yet below the metaphysical meaning of being, the ordinary man sometimes thinks and talks in a pre-metaphysical way about his life, his existence and his being. As a matter of fact, the ordinary man talks about existence in this way precisely for basically the same reasons as the existentialist does: because he, too, sometimes finds his undisciplined, pre-scientific, merely logical way of abstracting, insufficient and radically inadequate to reach the depths of the subjectivity of being. It is at this point that the possibility of genuine metaphysical conceptualization is opened to the ordinary man: but the chasm from philosophical ignorance to metaphysical habit is often too wide to be bridged successfully when it looms up suddenly. And so, the metaphysical seed falls, if not by the wayside, among the rocks or the brambles, and his experience fructifies, if at all, only in the idioms, the wise sayings and the popular insights which others will soon process into the flour of the truism and the insipid bread of the cliché.

But the fact that this conception of existence fails to reach the heights of metaphysics does not mean that it does not rise above the level of everyday, common sense experience. A question has been asked and the intellect has been excited. And the possibility of philosophical enquiry at this level may not be apparent to many, but it does not elude the existentialist. It is unfortunate, however, that because of a complex of historical circumstances the existentialist also, in his own way, is prevented from ever realizing his true metaphysical aspirations when he finally concludes that *only* this type of philosophical enquiry and this level of philosophical knowledge may possibly be reached by the human intellect. And yet, *felix culpa!* if the metaphysical failure of the existentialist leads to

a discovery that will enrich the treasury of human philosophical knowledge.

But let us return to the question in which the ordinary man first conceives existence in an *existential* way: what is the meaning of "existence," what is the meaning of "life?" Note, first of all, that in this connection "life," as the synonym of being or existence, is shorn of all Biological meaning: that is, the question is not one for Biology. If I ask, in this everyday, reflective (but pre-metaphysical) way, for the "meaning of life," no amount of biochemical or physiological information comes even near to answering my question. Similarly, an ordinary philosophical explanation of the *nature* of man (e. g., that he is a rational animal), even if it were a true explanation, also fails to answer my question in the sense in which I am asking it. What I am asking about is something more simple, more personal, a great deal less learned and sophisticated, and yet, a little more *important*. I am enquiring about this very curious happening which is happening to me, or which, more properly, I am doing, and which I call enduring or living or existing. Existence, in this sense, is what a mother gives to her child: it is what one does when one "brings a life into the world." It is existence in this sense, existence which is both exercised and perceived by me *as mine* (because I am "doing" it), which is of interest to the existentialist, for it is the origin of a number of philosophical problems.

Thereafter, from the direct, lived, existential, "ontic" experience of existence, the existentialist proceeds, by means of certain techniques, to analyze that experience in order to extract, as it were, its meaning—or rather, its *meaningfulness*. He goes on to codify and systematize its characteristics, to distinguish what is basic and proper to it from what is adventitious, and finally, to search for a "theme" which will thread together the aspects in which existence has been analyzed, and which will fit together the various facets cut at different times into existence by a temporalizing human intellect. In other words, he proceeds to treat existence (the

“ontic” datum), scientifically, philosophically and systematically, and thus arises “ontology.” But the same way of conceptualizing existence remains throughout the philosophical and scientific systematization of the implications of ontic data or experience. In Heidegger, for example, the point of contact between the ontic and the ontological, and the reason why the ontological must be preceded by the ontic, is precisely that the ontic always provides the basic intuitions, the root experiences, the *raw* data which once analyzed and systematized can become philosophy. Similarly in Sartre: the elaborated doctrines and the final conclusions (i. e., the “ontology”) of *L'Être et le Néant* are obtained by drawing out the implications of a number of experiences. For instance, the experience of feeling ashamed implies the possibility of my becoming an object for another, and so reveals the possibility of the alienation of the transcendence of my being.¹⁰

The ontic, therefore, notwithstanding its non-scientific status, is what characterizes most distinctively the conceptualization of existentialism. It provides the basic intuition which is the point of departure of an existentialist analysis. An existentialist analysis is only the systematic elaboration of an ontic datum. The typical abstraction of existentialism, therefore, and its characteristic way of conceiving and defining, is what might be called, for the present, *ontic abstraction*. The ontic is the existential of existentialism: existentialism only adds the *ism* to the existential.

III

EXISTENTIALISM AND METAPHYSICS

It is quite possible that even from the etymological point of view the term *ontic* is also adequate to characterize the degree of abstraction which is proper to the philosophical analyses of existentialism. We have come to associate so customarily $\tau\omega\ \sigma\nu$ with metaphysics (i. e., with metaphysics in

¹⁰ See e. g., J-P. Sartre, *L'Être et le Néant* (Paris, 1943), p. 320.

the Thomistic sense) that we seem to forget that, as some historians of philosophy tell us, the term has been in philosophical circulation since long before a metaphysics of being had been suspected. $\text{Tó }\delta\nu$ is usually translated as "being" or as "the real," which does not prevent us from saying that St. Thomas was a realist and his metaphysics a metaphysics of being, but which should not lead us, if Fr. Owens is right, to read into Aristotle what is only in St. Thomas.¹¹ Now, existentialism also deals with being and with the real; indeed, it professes to deal with "being as such," and it may be permitted to wonder whether the existentialist usage of the term is not closer than the Thomist to the original (especially the pre-Aristotelian) Greek meaning, whence the etymological propriety of *ontic* abstraction.

At any rate, the important point is that "the real" does not convey to the existentialist the same meaning as "that which is" conveys to the Thomist metaphysician. It would not do to identify the *id quod est* of the Thomist with the "really being" of the existentialist, because the being of existentialism is real in much the same sense as that of everyday language when we say that "this problem is real," or "this is what really matters." It is real in much the same sense as Longfellow's when he says that "Life is real, life is earnest. . . ." ¹² The real being of existentialism is real because it is earnest, because it matters, because, resorting again to Longfellow, you must "Tell me not in mournful numbers, 'Life is but an empty dream.' . . ." The aptness of the name "Existentialism," therefore, is not entirely unapparent: existentialism is not a philosophy of being or of human being properly so-called; it is a philosophy of existence, especially of human existence. Indeed, perhaps it could be said that the most distinctive difference between existentialism and Thomistic metaphysics is that the latter deals with being as being, whereas the former deals

¹¹ See J. Owens, *The Doctrine of Being in the Aristotelian Metaphysics*, (Toronto, 1951).

¹² This verse, and those quoted shortly after, are from Longfellow's "A Psalm of Life."

with being as existing. The being of metaphysics is *being which is*. The being of existentialism is *being which exists*.

What is meant, however, by this distinction between being and existing? It is the outcome of two different ways of regarding "the real." To understand this let us consider two ways in which we may regard an "appearance." When we say that something "appears to be" such and such, the implication is that it may or may not truly or *really* be what it seems to be: the appearance may or may not be one with the real. In this sense, therefore, appearance is not identical with being: behind the appearance there is being, and what matters is not what things appear to be, but what they really are. It is clear, moreover, that this sense of "appearance" does not entail for the Thomist (unlike, as it seems, it did for the pre-Socratics) a divorce between appearance and reality, for the mind does not grasp an appearance from which it *concludes to*, or *posit*, a reality. Rather, the intellect grasps as intelligible—or as being—the being that the senses grasp as sensible. The Thomist knows better than to hold that the senses grasp accidents and the intellect grasps substances, for although it is true that the intellect alone can apprehend an intelligible substance, the intellect also grasps as intelligible—or as being—the accidents that the senses grasp as sensible. Being, therefore, is "behind" appearance not only when the appearance is deceptive, but quite as surely when the appearance is perfectly truthful. That is why we say that the appearance may or may not be as it seems.

On the other hand, when we say that so-and-so "put in an appearance," there is no question of there being anything else beyond or besides the appearance. The appearance is a fact and a reality in itself, and, from this point of view, it is as ultimate a fact and a reality as it could possibly be. Even if so-and-so appeared as a deceiver or as an impersonator, so that I might mistake him for someone else, the reality of the appearance and the fact of his appearing are not altered in the least. From this point of view *reality and appearance are identical*.

Everyday experience furnishes many examples of this way of considering appearances. For instance, if a child experiences fear of ghosts, the real existence, the metaphysical reality or unreality of ghosts is quite irrelevant to the fact of his fear. In his experience ghosts do exist, because they are that of which he is afraid. From his point of view ghosts are real, because they are identical with his experience of them. And the fact is that he *is* afraid even though ghosts do not, as *we* might say, *really* exist, and even though so-called ghosts are *only* an appearance, the only reality of which may be a tricky shadow or a lively and unruly imagination. From the child's point of view, which is an existential one, the appearance of the "apparition" of its very nature produces fear, and the more "metaphysical" or ontologically-oriented considerations are completely out of order. Clinical psychologists know this very well, and that is why they will not commit the error of trying to "reason" with the child. They know that the only way he can cease to "see ghosts" is to re-structure his "phenomenological field;" he must be made not merely to *conclude* that ghosts do not exist, but rather to experience the same environmental stimuli with a different *meaning*. He must be made "to perceive in different terms," which in turn is made possible only by facilitating the re-organization of his personality.

Of course, the type of conceptualization which is proper at the scientific level of existentialism is more greatly refined and probably a great deal less common than the experience of a child being afraid of ghosts. However, the point of the preceding illustration is this: what characterizes the ontic abstraction of existentialist philosophy is the *essential reference of the real to experience*, and, therefore, the phenomenological *identity* of appearance and reality. When the metaphysician as such conceives being, he is, on the contrary, oblivious of himself and his own experience. Even if he conceives his own being, he *objectifies* himself, quite unlike the existentialist, who tries to *subjectify*, insofar as it is possible, whatever he beholds. The metaphysician sees in being a unique perfection

or actualization which is not unlike a *deserved merit* or an *intrinsic right* possessed by that which is precisely because it is. When under the transcendental aspect of truth being speaks to the mind of the metaphysician, "what is then manifest is of the nature of an *obligation* attached to being. An *I ought to be* consubstantial with *I am*."¹³ He may give recognition and respect to being, but that is only a consequence of the resonance that being produces on him. What characterizes his conceptualization is that he sees the perfection of being as possessed by being itself whether or not that perfection is recognized and respected by anyone.

But whereas the metaphysician loses himself and disappears before being, the existentialist finds himself and reveals himself to himself in being, because being is, for the latter, *recognized being* or *respected being*: that is why the being grasped by ontic abstraction is always being-in-experience. Consequently, for existentialism the real is identical with the really-appearing or, what is the same, with the apparently-real. If we must give it a more descriptive name, then let us say that the typical way of abstracting and conceptualizing which is proper to an existentialist analysis is not only ontic but also, and more precisely, *phenomenontic*. If metaphysics, whether by inherent right, prescription or common agreement, is to be granted title to the name Ontology because it deals with being, then that type of philosophical knowledge which obtains through existential analysis, and which deals with appearing-being should perhaps be given the name *Phenomenontics*.

The use of some kind of phenomenological method, therefore, is essential to existentialist philosophical analysis, for if we abandon the description and interpretation of what-is-in-experience and attempt to get at what is beyond experience, we have thereby abandoned our distinctive way of conceiving. However, unlike the original phenomenology of Husserl, where the phenomenological *ἐποχή* is undertaken in order to cut the

¹³ J. Maritain, *A Preface to Metaphysics* (London, 1948), p. 66; *Sept Leçons sur l'Être* (Paris, 1934), p. 76.

Gordian knot caused by the tangle of idealism and realism, the modified phenomenology of existentialism does not grant that there is even a problem of idealism against realism within the boundaries of existentialism. Indeed, in order to grant not only a solution, but even the very position of the problem itself, it would be necessary to withdraw oneself from the existentialist coign of vantage. To ask the critical question which may be answered in terms of idealism or realism or, for that matter, in terms of any possible third position, is to pass on, even before an answer is given, to a different way of abstracting and conceiving, namely, to the metaphysical one, and therefore it cannot be done within Phenomenonics.

If the foregoing observations are correct, then it is clear that the accidental similarity between the metaphysics of being and the philosophy of existence hides a substantial distinction between them. But since the metaphysics of being is concerned, as we often say, with being in its existential character, while the philosophy of existence is, in a way, concerned with that which is insofar as it is, a number of equivocations are almost inevitable. The fact that the philosophy of being deals with existence and that the philosophy of existence deals with being may easily obscure this other fact: namely, that, as we have just seen, an existential metaphysics is no more existentialistic than a phenomenological ontology is ontological. The being of metaphysics (i. e., the second "being" in "being *qua* being") and the being of existentialism (i. e., the "existing" in "being as existing") are not univocally being: the being of existentialism is only analogically like the being of metaphysics by an analogy of proper proportionality.

IV

EXISTENTIALISM AND MORAL PHILOSOPHY

It may seem that the distinction drawn above between the being of metaphysics and the existing of existentialism is due to the superaddition of moral value to being pure and simple.

Is not the very existential question concerning the meaningfulness of existence a moral question? When the metaphysician asks what it is to be, his question is not put at the level of moral philosophy, for he is merely concerned with speculative matters. But if the question of the existentialist concerning what it is to exist has any meaning, and if this meaning is not metaphysical, is not the reason that he is not asking a purely speculative question, but rather a moral one? Is that not the reason why the distinction has also been made between *meaning* and *meaningfulness*? And that is why—it might be adduced—many doctrines of existentialism are reconcilable with metaphysics, namely, if they are understood only in a moral context.

For instance, how are we to understand the doctrine that there is no human nature which is “ready-made” and “achieved,” but that the only meaning of existing humanly or being a man is that man gives his own meaning to himself—and so, “creates” his own nature—as he becomes or exists in time? If this doctrine is meant to be taken metaphysically, it could be said, then it makes no sense at all: it would involve us in contradictions. From the point of view of moral philosophy, however, there would be no contradiction between being something and becoming it. Man must become morally what he is ontologically, namely, a man: man must acquire the moral perfection which is due to what he, ontologically, already is. From this point of view there is no contradiction at all in saying that a man is not a man, provided it is true that he is not a man, but, for example, a coward. Now, undoubtedly, many doctrines of existentialism could be easily reinterpreted in this fashion, but it may be permitted to wonder if such a reinterpretation does justice to the way of conceptualizing which is proper to phenomenology. This is what we now have to investigate.

Let us recall that the existentialist analysis begins with an *ontic apperception*. The scientific status of such an analysis is not due to its abandoning the ontic mode of abstraction; rather, it emerges out of the elevation of ontic abstraction to

the condition of reflexivity and systematization. Let us now consider this ontic datum, an experience which is perhaps not too uncommon: I look at myself and review my own existence, and I find that although I have had few advantages from birth, I have attained a much higher station in life than appearances had led me and everyone else to expect. I am—to use a significant popular expression—a “self-made man.” But now let us reflect. Must I have attained a prominent position in order to be a self-made man? Am I not always something, even if I have not risen above the crowd? The ordinary connotation of being self-made is success; but some of us are failures, and if I am a failure, who makes me a failure? Or, which is more common, who makes each one of us the mixture of success and failure that most of us are? And besides, leaving aside success and failure, am I not in either case a certain kind of being? Do I not exist in whatever way I exist and as whatever I exist? The answer is that I have made myself to be whatever I am. Before I am something, I can be anything, but I cannot remain and I do not remain a pure possibility: I make myself into something. Before I make myself, I am nothing. But how do I emerge out of nothingness? By acting, by behaving, by living: in a word, by being. Thus, my existing, which makes me be what I am, is, in a sense, a perpetual struggle to overcome the nothingness that I am. I make me what I am out of nothingness; I make my being, out of nothingness, precisely by existing or being.

The point of this illustration is that the existential conception “being self-made” is not philosophical until its *speculative* value is disengaged for its own sake. That is why the experience of being self-made will mean for the ordinary man no more than an occasion for emotion or feeling: he is glad, or proud, or self-satisfied of being self-made. But for the existentialist, systematically guided reflection upon the ontic datum will produce not only a *feeling*, but primarily a *conviction*; it will produce philosophical knowledge of a certain sort. We started with an ontic datum, but now we know something about being, and

this knowledge is not ontic, but "ontological." Evidently, the existentialistic or phenomenontic is closely connected with the existential or ontic, as we have already seen. But the moral is also closely connected with the existential, and hence the possibility and danger of confusing phenomenontics and moral philosophy.

Moral philosophy, however speculative as to the mode of knowledge, is not speculative knowledge. Its end is not understanding for the sake of understanding, but for the sake of action, which it directs more or less proximately. The practicality of moral philosophy is not superimposed upon its speculativeness as an afterthought. It is there from the outset, and it is there essentially.¹⁴ If anything—it might be *figuratively* said—the speculativeness is what is imposed on it. We begin by having problems concerning practical action: what am I to do in this particular, concrete, existential situation? The *decision* which I will take does not call of itself for any theoretical knowledge, but rather, for the *exercise* of prudence. But this practical problem presents me not only with a situation in which my person must engage itself in its entirety, but also with a *problem* for my intellect, and so I may broaden the scope of my deliberations and reflections. But even this does not make my knowledge theoretical. Rather, I come to know in a theoretical way what is to be done. Even if I intend never to put into practice what I may discover concerning this *operabile*, my knowledge remains practical as to its object, which is the *operabile*: it is speculative only as to the mode of knowledge. Moral philosophy, therefore, is not "applied" speculative philosophy: it is an essentially different order of philosophical knowledge.

¹⁴ ". . . la philosophie morale procède de façon pratique quant à ses finalités propres et aux conditions de l'objet, et donc quant à sa loi propre d'argumentation, [mais] elle reste encore . . . de mode spéculatif ou explicatif quant à l'équipement général ou fondamental de la connaissance. En cela la philosophie morale est considérée précisément comme philosophie, ou savoir *spéculativement pratique*, par opposition à la connaissance strictement pratique . . . Il importe cependant, pour . . . ne pas s'imaginer la philosophie morale comme une science purement et simple-

It is true, of course, that moral philosophy demands a number of concepts of the speculative order, e. g., good, value, end, norm, etc., which are basic to it and which are pre-requisite to it. But it also demands a number of basic concepts of the practical order, e. g., right, duty, moral fault, etc., which are known by inclination or connaturality.¹⁵ It is in this sense also that moral philosophy may be said partly to arise from the existential and the ontic; that is why moral philosophy demands, as we say, a great deal of "experience" and a certain degree of "sensibility." And, incidentally, that is also the reason why whereas a rationalistic metaphysics is empty and vain, a rationalistic ethics, out of touch with existence and spun out of *a priori* concepts, is not merely vain, but positively contemptible.

On the other hand, an existentialist analysis arises out of the existential and the ontic, as we have seen, but the end of this type of knowledge is knowledge alone. More important, its object is not something to be done, but something to be known. We want to know what it is to be man, and what it is to be, not what is to be done. Of course, phenomenonics can be applied, just as any type of speculative knowledge can be applied under certain circumstances, but of itself it is not practical and not directed to the practical. For example—returning now to our previous item of existentialist doctrine—we say that man makes himself; but this is not the same as to say that, morally, man must become what he is. We are not saying that man *should* act in accordance with his nature; indeed, the opposite would be nearer to the truth. We are saying that when man acts (or is) he is bringing into being

ment spéculative, une métaphysique ou une psychologie des vertus, de se rappeler que si la philosophie pratique . . . se distingue essentiellement de la philosophie spéculative, c'est que dès l'origine elle est tournée vers l'opération . . . et considère l'opérable *en tant même qu'opérable*, de telle sorte que la raison formelle sous laquelle elle atteint son objet, l'œuvre scientifique à laquelle elle est ordonnée, la lumière spirituelle qui l'anime et la dirige, sont autres que celles des sciences spéculatives." J. Maritain, *Les Degrés du Savoir*, (Paris, 1948; 5th ed.), pp. 880-881.

¹⁵ See J. Maritain, *Neuf Leçons sur les Notions Premières de la Philosophie Morale*, (Paris, 1951), pp. 19-23.

whatever meaning he has. We are merely asserting what we believe to be a fact. Our judgment is speculative and only speculative; if understood in its proper context it is as void of *moral* value (although it may very well have what we may call *factual* value) as that which says that man is a rational animal. It merely helps us understand, at a certain level of analysis, what it is like to be a man, or what it is like to exercise human existence. Moreover, there may very well be in this doctrine certain moral implications that may or may not be explicitly drawn out; but, for that matter, there are moral implications that can be drawn out of any philosophical doctrine, which does not reduce all philosophy to moral philosophy.

The existentialists themselves are often guilty of failing to perceive the notes that distinguish existentialism from moral philosophy, just as they usually fail to perceive, as we saw earlier, the distinction between existentialism and metaphysics, and, indeed, just as they always fail to perceive that existentialism is only one type of philosophical knowledge, and not the whole of philosophy. And if an existentialist commits this initial error, then, when he considers the doctrine that man makes himself, he is bound to understand it as directly contradictory to the "physical" doctrine of human nature, nature properly so-called. He is bound to understand it in an absolute and ultimate sense. And if so, if there is in man no nature other than his self-made "nature," then there is no "right" or morally normal way for man to achieve himself; there is no measure for being human, there is no standard for human behavior. From this point there is only a short step to the anthropocentric humanism of existentialism. Existentialism becomes moral philosophy only by ceasing to be itself.

V

CONCLUSION

Although the type of abstraction which we have here tentatively called phenomenontic does not produce metaphysical knowledge or ethical knowledge or knowledge of natures properly so-called, it produces, nevertheless, its own kind of knowledge. This knowledge, moreover, is scientific, because it ascertains causes. Evidently, it does not ascertain the same kind of causes nor does it seek causes in the same way as the other philosophical and non-philosophical sciences do. But it is also evident that an analysis at this degree of abstraction provides the mind with some kind of reasonable "account" for some problems which confront the "being questioning being about being."¹⁶ Phenomenontics is a distinct type of scientific philosophical knowledge, the principal characteristics of which are as follows.

First: the philosophical knowledge which is produced by a phenomenontic analysis does not consist in disengaging essences as such. As in all knowledge, essences are, of course, the (hidden) guarantee of knowledge. What is studied phenomenontically, e. g., man, does have an intelligible essence, but the achievement for which this type of analysis strives is not the isolation and grasp of the necessary principle of intelligibility which constitutes a thing into what it is. For this reason, and also because a phenomenontic analysis tries to grasp certain determinations of subjects not in the pure order of determination, but as in those subjects themselves (as will be explained below in more detail), a phenomenontic expression must never be taken formally. Unlike St. Thomas, it may be said, *materialissime semper loquitur Phenomenonticus*. If one says, for example, that "the being of man is essentially time," it would be ridiculous to take this proposition in the sense that "the *esse* of a rational animal is the measure of motion in

¹⁶ Cf. M. Heidegger, *Sein und Zeit* (Halle a.d.S., 1927), [Jahrb. für Phil. und Phänom. Forsch.], vol. 8], pp. 5-8.

respect of before and after." It means, rather, among other things, that temporality is a condition of the possibility of being man, for it is the basis of the "transcendence" of human existing.

Thus, when one says, at this level of knowledge, that the nature of man is such and such, the term nature must be taken in very much the same *material* sense as when a nuclear physicist tells us about the "nature" of matter, or better still, as when a news commentator tells us about the "nature" of the latest international developments. Consequently, the kind of causal explanation which is proper to phenomenontics is not explanation properly so-called, but rather an explanation *secundum quid*; namely, that kind of "account" which is given by a description and a systematization of facts. Phenomenontics, therefore, is not a *scire propter quid est*; it is a *scire quia est*. But it is, nevertheless, philosophical *scire*, as will be explained below: a novelty which by itself may cause no little difficulty in grasping the nature and appraising the value of existentialism.

Second: the existence in which we are interested in phenomenontics, which is not to-be, but be-ing, is essentially of individuals. Just as the real is essentially referred to experience, existing is essentially referred to the individual, since for phenomenontics, as we have seen above, existing is always existing-in-experience. Phenomenontics, therefore, is interested in the existing of individuals, not in the abstract, but, precisely, as it is exercised by individuals. However, the individual as such is impervious to scientific knowledge, as the existentialists would readily admit. Hence, an existentialist analysis, oriented towards the individual and arising out of the ontic, can become scientific only by "generalizing." It generalizes not by seeking to grasp natures, but by describing and systematizing "commonalities" in somewhat the same way as the empirical sciences do. Phenomenontics strives to penetrate the meaning of the individual existing, but if this type of knowledge is to proceed beyond poetry and become scientific, then concepts,

which are universal, must be used: in the language of the empirioschematic sciences, one must "adopt categories." As in the special sciences, natures remain a hidden α which can be discovered only by having recourse to a different type of scientific knowledge.

On the other hand, the generalization of phenomenontics is unlike the inductive generalization of the special sciences in that the latter constitutes a succedaneum of the nature whereas the former is a mere expedient, a means made necessary by the inadequacies of human thought and expression. Consequently, phenomenontics generalizes for the purpose of understanding the individual, and its espousal of generalization does not entail a divorce from its desire to understand the individual existing. This is one reason why the novel and the drama are so appealing a means of expression to some existentialists, whereas other existentialists, notably Heidegger, emphasizing the distinction between the ontic and the "ontological," find these literary and poetic techniques repellent because of their lack of scientific character.

Finally: phenomenontics, in common with the philosophy of nature and the empiriological sciences, is scientific knowledge at the first degree of abstraction. Its concepts are not resolved in *ens ut sic*, but in *ens sensibile*. But whereas the philosophy of nature places emphasis on the *ens* of *ens sensibile* and the empiriological sciences on the *sensibile*, phenomenontics places the emphasis on both *ens* and *sensibile*. This does not mean, of course, that it is a mixture of the philosophy of nature and the special sciences; it means, rather, that it is distinct from both. It might be more accurate to say that it resolves its concepts in *ens sensibile ut sic*.

That is why phenomenontics can be, at the same time, a science *quia* and philosophical. It is not a science *propter quid*, as we have seen above. But it is nevertheless philosophical because, unlike the empiriological sciences, it seeks remote and first causes (i. e., remote and first *secundum quid*). The causes that it seeks are remote and first, as contrasted with the

proximate and secondary causes of the empiriological sciences, because they lie closer to the being of things. The conceptualization required by phenomenontics is deeper, more abstract and of an essentially higher rank than that required by the special sciences. That is why existentialists, who may dismiss the explanations of "traditional" metaphysics as vain, or meaningless, or false, will declare the explanations of the special sciences to be merely irrelevant, however true they may be in their own, lower domain. Of course, Thomists traditionally distinguish between philosophy and the special sciences, in one way, by reason of their respective type of explanation, *propter quid* and *quia*. But this distinction is not an essential one:¹⁷ it has been adequate, *per accidens*, in the absence of a philosophical science which is *scire quia est*, and it will continue to be adequate as an approximate, pedagogically introductory distinction, if abstraction is made of the peculiar case of phenomenontics.

Phenomenontics, therefore, stands halfway between the special sciences and the philosophy of nature. At the first degree of abstraction are found the sciences of mobile or sensible being: of *ens sensibile ut ens* (philosophy of nature); of *ens sensibile ut sensibile* (empiriological sciences); and of *ens sensibile ut sic* (phenomenontics). And so, we may accept once again the formula that phenomenontics is the philosophy of existence, provided we understand that this existence is not the *esse* of the being of metaphysics: existentialism, as a friend of mine has put it, is "concerned with existence insofar as existence is a matter of importance." Nor is it moral philosophy thereby, for what is important is not necessarily moral: after

¹⁷ "Le *scire an sit* ou *quia est* (savoir dans le registre ou la perspective du fait) n'est nullement limité au savoir de type inductif, cette expression désigne d'une façon générale (par opposition au *scire quid est* ou *propter quid est*, savoir dans le registre ou la perspective de la raison d'être) toute connaissance qui ne parvient pas à saisir l'essence elle-même dans toute sa constitution intelligible. C'est ainsi par exemple que dans une discipline de type déductif comme la métaphysique le *scire quia est* joue un rôle très important, puisque toute la connaissance que nous avons ici-bas de Dieu ressortit à cette sorte de savoir." J. Maritain, *Les Degrés du Savoir*, (Paris, 1948), p. 66n.

all, "there are genuine value judgments in speculative philosophy."¹⁸ Phenomenontics is neither metaphysics, nor moral philosophy, nor philosophy of nature, nor, of course, an empirical-logical science. It is a distinct philosophical science, with its own point of view, its own formal object, its own way of abstracting and defining, its own problems, its own answers to those problems, and, therefore, with its own unique contribution to human philosophical knowledge.

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¹⁸ J. Maritain, *Neuf Leçons sur les Notions Premières de la Philosophie Morale*, (Paris, 1951), p. 43.

THE NATURALISTIC APPROACH TO NATURAL SCIENCE THROUGH MOTION AND MATTER

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THE most fundamental questions which are raised in modern science are concerned with matter and energy, which are said to be different aspects of the same reality. This reality is described in terms of particles and waves, and there is good experimental evidence for both. Particles can be recognized by their tracks in a photographic emulsion or in a cloud chamber, and they can be recorded with a Geiger counter. Diffraction and interference phenomena serve for the study of the continuous field or wave character of matter, which is manifested not only by light but also by electrons, neutrons and protons. Thus particles appear as waves and waves as particles: the two seem inseparable. Yet the difficulty of combining these two aspects of things in a unified picture is so great that it has been called the main stumbling block which prevents the formation of a stable and certain concept of matter.

It has been suggested that the particles may be more or less temporary entities within the wave field whose form and behavior are determined by the laws of the waves themselves, which in certain cases permit waves to appear as if they were permanent substantial beings. Or perhaps the wave field is merely a device for computing the probability of finding a particle of given properties at a given position. At any rate most theoreticians will probably admit that the individual particle is not a well-defined and permanent entity whose identity or sameness can be detected experimentally. In a word, the modern analysis of matter leaves us uncertain whether the world is a system of waves or particles or both. The only thing which seems certain is that there are no well-defined and permanent entities.

This picture of physical reality may at first seem very dis-

concerting and quite opposed to ordinary ways of thinking. For reassurance we may take hasty refuge in the common view that nothing is certain in science, nothing final. New data will surely be uncovered, and new principles will be formulated. After all, science gives us only a tentative and partial view which is always subject to revision and revaluation. But the hypotheses of science are not opposed to previous valid findings. On the contrary, agreement with the data of experience is what validates a scientific principle. When new data exceed the limits of former principles, new hypotheses must be formulated which include as special cases the facts and correlations already established.

The primary datum of our sensory experience is the fact of change in the world around us and in us. When we realize that we ourselves were born and will die; that we came into being and will cease to be in this world at least; that not only organisms of all kinds but also the chemical compounds are generated and corrupted, why is it surprising to be told by modern scientists that even the chemical atoms and the elementary particles of which they are composed are not permanent entities but transitory things? Perhaps it is because we had become accustomed to think of the atoms as indestructible building blocks out of which all bodies are made.

Perhaps there is also a deeper reason for wonder. If everything is changing, how can there be anything even relatively permanent in the world? What are air and water, rocks and trees, animals and men? How can there even be change? Can there be a wave without something waving? How can anything come to be and cease to be in this world? To these questions there is no certain answer in modern science. Yet these are the very questions which the primary data of experience raise in our minds. If we desire a fundamental understanding of natural things we must account for change. We must explain in terms of its own proper principles what a changeable thing is and how it comes into being and ceases to be.

It is not customary in modern science to look for basic prin-

ciples. Often we are told by philosophers of science and scientific methodology that there are no principles which are certainly first, and no universal or necessary truths. Of course those who say these things do not hold that it is possible to affirm and deny the same thing at the same time, or that something can both be and not be at once and under the same aspect. They do not mean to deny that the world around us is a source of our nourishment both physical and mental, or that from it we draw the air which we breathe and the food which we eat, and from it in a mysterious way we draw also our knowledge of things. It is obvious that our life and our happiness depend upon our valid knowledge of the world around us and within us. What they mean is that we do not know any first or basic principles by which we can understand natural things in a scientific way, by which we can judge of them with certitude and organize all our knowledge of them in an orderly way.

At the present time many scientists also are convinced that we cannot attain any initial or final certitudes about natural things. We must take them as given with all their marvelous complexity and variety, but we cannot hope to determine what they are in their inner essence or nature. The principles which are admitted and employed in scientific reasoning are tentative and subject to revision and reformulation. The conclusions which are derived from these principles are verified only approximately. They are not universal and necessary consequences from certain basic truths, but more or less probable consequences from principles which are convenient, useful or fruitful but not strictly first or certain.

Many are the attempts which have been made to understand and explain the world around us and within us. The child asks, What is the sun or the moon? What is the firefly? How and why do they shine or not shine? The scientist realizes that it is difficult to answer such questions. He sees that every natural thing is beautifully and wonderfully made. He sees an endless variety and complexity of natural things which are distinct from one another and which pursue their own objectives more

or less independently of one another, or interdependently. He sees that from their complex relations a certain order results which is beautiful, vast and mysterious. He well knows that in order to succeed in understanding the natural world we must find some way to simplify the wealth of experience. We must discover a way of knowing the whole through its parts, and a method of comparing the less known with the better known, if we desire to attain an objectively warranted, accurate and systematic understanding or explanation of the world around us and within us.

So great is the complexity of things that the very effort toward objectivity and accuracy imposes a need for simplification. This need has been met by scientists in various ways. Some have tried to construct in mind or matter a mechanical model which will illustrate the structure and behavior of natural things, and which will enable us to understand things as if they were like our device or contrivance. Others have sought to interpret natural things in a more refined way by means of mathematical models which transcend sense and even imagination, but which enable us to correlate vast amounts of measurable data and to infer consequences which agree well with experience.

These explanations of natural things by means of mechanical and mathematical models have both advantages and limitations. They do indeed help us to understand the complex and mysterious workings of natural things in terms of something simpler and more familiar, or at least more intelligible. They help us to correlate observable and measurable phenomena, to infer many valid consequences, and to discover new correlations and consequences. In these respects they are powerful instruments for the analysis of natural things and for the control of natural processes.

But these methods of interpretation also have definite disadvantages. In the first place they do not explain things by their own proper principles, but employ extrinsic and very different principles of interpretation. They do not manifest

what a thing is in itself but compare it to something else quite diverse. They explain the natural thing as if it were like the mechanical or mathematical model, and tend to reduce the intricate object to something simpler but dissimilar.

In the second place they are confined to the observable and measurable as such, and do not manifest the natures of things. They do not give us a fundamental understanding of natural things and processes, or tell us the essential reasons of things. The natural and the artificial, the non-living and the living are explained in the very same way without regard for their essential differences.

In spite of these shortcomings it is undeniable that modern methods are both useful and fruitful, and it is not our purpose here to minimize their value or to suggest anything to supplant them. But it is fair to ask whether there is any other way by which the mysteries of nature can be investigated and rendered more intelligible. Is there a way to strengthen the foundations of science and to supplement its deficiencies? Is there a method by which the proper principles of things can be discovered? Can the natures of things be manifested; and the essential reasons and differences of things be explained? Can we determine the first principles and causes of natural things, and establish a body of conclusions which are invariant, universal and necessary? In a word, can we develop an understanding of natural things which is not merely hypothetical and tentative but genuinely demonstrative?

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In the long history of natural science there is a method which has been employed to reveal true and certain principles from which strict demonstrations and genuine scientific knowledge can be attained. This method, of course, is not foolproof, but subject to human understanding and misunderstanding. But if rightly understood and used, it can perhaps supply the solid foundation which is admittedly lacking in modern science.

This method begins with the investigation of first principles, because we are satisfied that we understand particular things

when we see them in the light of first principles. Besides the most general and common first principles or axioms which are required for any and all progress in knowledge, there are the basic and proper principles of each subject of scientific investigation. To know a thing scientifically in the strict sense of the term means to know it perfectly as man can know. We know a thing perfectly when we know the proper reasons or causes of its being or being so, because a thing is what its causes or reasons of being determine it to be. The basic principles of each subject of scientific investigation are understood as proper causes of the subject itself. Hence in order to develop a science of a certain subject we must first determine its basic principles. Then we must determine its essential reasons or causes and the relation of these to the basic principles. Finally we must understand the causes or reasons in orderly relation to their effects or consequences. We must organize our knowledge so as to explain each effect by its proper cause, and see each essential reason or cause as a middle term from which an invariant and necessary conclusion results. Thus the whole effort of scientific investigation is a search for essential reasons or causes whose formulae or definitions can be employed as middle terms in the demonstrations of the science.

Causes which are near to sensory experience are more evident and better known to us than causes which are remote from our experience. Moreover, although the particular is directly sensible, it is the invariant or universal which is directly intelligible. Hence we must begin our investigation of causes with the general consideration of sensory and corporeal things. This is fitting because our knowledge is at first confused and general, and does not attain specific details without special effort. Hence we can conveniently simplify our consideration of things by proceeding from the general to the specific. Furthermore, we must consider first that which is fundamental in things and on which all else depends in order to be and to be understood.

Can these general rules of scientific procedure be applied in

the study of natural things so as to develop a genuine science of nature? Is a strictly demonstrative science of natural things possible, or can we attain only probable and approximate knowledge of these things? It must be admitted that there are serious difficulties that stand in the way. Natural things do not seem to be suitable subjects for science in the strict sense. They are particulars, whereas science is of the invariant and universal: they are mobile and contingent, whereas science is of the necessary. Do natural things have first principles which are basic and proper and on which we can establish all our scientific knowledge of them? How can we determine the natures of things which are manifested to us only by sensory phenomena? How can we discover the causes of things so mysterious? Is there any necessity in things so variable and unpredictable? These are questions which must be answered if we hope to develop a genuine natural science.

Let us see whether we can determine the basic principles which are proper to all sensory things. We shall proceed in the light of that which is first and best known to us about the sensory world. If we consider it as known by touch, we find it pressing upon us or resisting us. It heats or cools us; it acts upon the tongue and we taste its flavor; it acts in our nostrils and we smell its odor; we hear its sounds, and see color and shape, figure and movement. All these are particular sensory aspects of the world around us. We are aware also of the self, of our activities and our unity. If we generalize these sensory experiences we realize that the world is presented to us as something which is changing sensibly: something which is subject to sensory change. It is something which is not static but dynamic: something which is not purely intelligible but both sensory and intelligible. Furthermore, it is not simply one thing, but many. There are the self and others. There are many primary units with various operations and modifications. There is an orderly system or world composed of multitudes of primary units of different kinds complexly interrelated, each moving itself or being moved in various ways and subject to manifold change.

It is then a mobile or changing world which is presented to us and of which we are a part, a system of mobile things both living and non-living, intelligent and non-intelligent. Do mobile things as such have principles which are basic and proper to themselves? A careful analysis of what is presented to us in our sensory experience reveals that a mobile thing is not simple but complex. It has various sensory qualities according to which it is changable: color, sound, odor, etc. It has a where in place and a when in time. It has measurable aspects, magnitude and figure. It has motions or activities, and principles of motion. A mobile being is something which can come into being and cease to be, either simply as a primary unit—a compound or organism—is generated and corrupted, or in some secondary respect such as color or figure.

The newly generated organism or compound is a primary unit which previously did not exist. But things are not made from nothing in the course of nature, nor do they pass into nothing. Nor are they intrinsically made and constituted from something which was and remains actual, because whatever is actual already exists and cannot be made. Besides the actual there is a real medium which is the inner subject of change. This subject of change is potential, a real potency, something capable of receiving a new determination called a form and becoming actualized by it, or of being deprived of a form. The potential subject as such is not directly observable, but inasmuch as it is actual in other respects, or in sensory motion or transition from potency to actuality, it is observable. The stone which can be moved from place to place can be apprehended by sight or touch. Modern theories tend to describe things as if they were entirely actual, and do not acknowledge the potential as such. Yet the potential subject of change is required in order that a mobile being might become actual or cease to be actual, yet not be made from nothing or turn into nothing. Thus the basic and proper principles of mobile things as such are the potential subject and the form. Every mobile being inasmuch as it is one, whether a primary unit or something secondary, is made of and consists of a potential subject and a form.

The primary units, living or non-living, are subjects of secondary modifications or forms according to which superficial changes occur. Water can be heated; metals can be moulded; gases can be condensed or rarefied. But the fundamental subject from which a primary unit is made or generated, and into which it becomes corrupted, is a purely potential principle. Of course, a purely potential principle can neither be nor be conceived apart from all determination or form. Whatever is or can be conceived is determined in one way or another. The potential is known only in relation to the actual, as something which can be determined or actualized. It is the mobile as such which requires both a potential and an actual principle in order to become and to be, and it is motion or change which more or less directly reveals the potential subject. The generation and decay of primary units, such as organisms and compounds, requires a purely potential subject from which they are generated and into which they become corrupted.

A genuinely new primary unit, which previously did not exist actually, is generated from a purely potential subject. It is generated from something, not from nothing; from something which is not itself formal or actual, because what already is cannot be made; from something which is indifferent and capable of becoming and being this or that, because all kinds of things are freshly made, although in a certain order and in various ways. Consequently, the primary form in a mobile being is the first and fundamental actuality from which the new unit is composed and constituted. The primary subject which is a purely potential always has an appropriate fundamental or substantial form by which it is actualized. Nor is the first subject ever without some fundamental form, even when fundamental or substantial change takes place, because the generation of the new is the corruption of the old: a new form is actualized in the primary subject by an appropriate agent and the old form ceases to be actual. When some water is generated, the hydrogen and oxygen as such cease to be.

It is generally admitted today that the actually existing

individual, whether wave, particle or organism, is not permanent in this world. The world endures because the primary subject of change which is purely potential, which is in all sensory things and from which all are made, cannot be corrupted, but acquires a new form with the passing of the old and is itself indifferent to all. This account goes to the roots of the matter and explains what a mobile being is through its first, basic and proper principles.

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These principles, the subject and the form, are common to everything which is capable of sensory change, whether natural or not. But in natural science we are interested only in natural things with their properties, and so we must determine the principles which are basic and proper to natural things as such. In a word, we must determine what nature is, or what is meant by the nature of a thing, because a thing is said to be natural because of its connection with nature.

Certain things have a nature and are made by nature, whereas other things are not made by nature but by human art, or by chance or violence, and such things lack a nature. Shoes and hats are made by art, and they do not have a nature, save inasmuch as the materials from which they were made are natural and have a nature. The chemical elements and compounds, the plants and animals are made by nature and have their natures. These things manifestly have in themselves the primary and proper principles of their characteristic or typical appearance and behavior. Each of the natural types has its proper structure and functions by which it is characterized and distinguished from all others, as we see, for example, in the periodic table of the elements. But artificial things such as chairs and tables, and things which are not primary units but aggregates, whether heaped together or fastened together from without, do not have in themselves a primary and proper principle of motion.

We see that natural things which have a nature differ from things which are not natural and which do not have a nature,

and they differ by reason of the principle of motion which they have in themselves. The nature of a thing, then, is an intrinsic and special principle of motion, something which is in the thing in which characteristic motion is found as a source of that motion. It is something primary or basic, and proper or specific. It is an inner, primary and special source of the behavior which is characteristic of each type of primary unit, of the horse or dog, of the element or compound. Each primary unit is distinct from all others, and although it does not function in complete independence of others, still it has in itself the primary and proper principles of its own typical behavior. Only a primary unit, an element or compound, a plant or animal, has a nature. That which proceeds from a nature as its intrinsic and proper principle is natural. The primary unit itself and also its typical structure and behavior are natural. The barking of a dog, the motion of a falling stone (supposing that this is a primary unit) and the growth and structure of an oak are natural: they proceed from the natures of these things. The motion of a hammer or saw is not natural: it does not proceed from a principle of motion in the hammer or saw, but from the artisan.

Natural beings have typical passivities as well as activities. Each is generated from its own proper subject, which is a primary and purely potential principle. This principle is derived from primary elements or compounds. Each natural being has its own specific determinant, which is the primary or substantial form. This principle is an actual or formal nature. The formal nature in living things is active, and is the source of vital movement by which organisms move and perfect themselves. These two principles, the primary subject or material nature and the form, are proportioned to each other as a specially disposed potency to its proper act. The matter is differently disposed according to quantity, density, etc., and the form is different in the different natural types. The primary matter and form together constitute the complete nature of each type, as in iron or gold, the oak or the lion.

Artificial things do not have a nature, either material or formal. They are not themselves primary units, but modifications of such units, or compositions of many. Their forms are not primary but secondary, as a chair has a secondary form or modification in wood or metal, and a knife has a secondary form in iron or bronze. There is no principle of motion in something artificial, but at most a coordination of natural agents, as in an automobile. The artifact is not made by nature but by human art, nor is it made from a specially disposed primary subject, but from various secondary subjects, as a garment may be made from cotton or wool. In this case the cotton or wool are in the garment which is made, and the change is not fundamental or substantial. But when a compound is generated in the course of nature, the elements do not remain as such but are modified by the reaction and are changed into something new and different, with a different nature.

Human art cannot make a nature, or something with a nature. Man can indeed mix and apply natural agents, but when something with a new nature is produced it is made by the natural agents, not by any man. A sign of this truth is the fact that no man knows exactly how a thing with a nature is made. The production of the so-called synthetic elements and compounds is not proximately due to human art or human action, but to the action of the natural reagents which specially dispose the matter for the new form.

The natures of things are the principles or sources of sensory characteristics and so they can be known through experience. The typical structure and behavior of natural things is rooted in their natures, and the natures themselves can be defined by their typical manifestations. They are the primary or substantial principles which are the sources of the characteristic stability and regularity, uniformity and difference which we observe in natural things. Hence in natural science we can and should determine the natures of things by accurate observation and experiment. We can define the natures through their typical and proper manifestations, and we can explain the typical behavior of things through their natures.

In this respect natural science differs profoundly from mathematics. Natural science is a consideration of the whole naturally mobile being with its basic principles of motion, or nature both material and formal, and with its characteristic structure and behavior. In mathematics we do not consider the mobile being as such, but we consider something having quantitative determinations and relations which can be understood and demonstrated through the principles of quantity, such as points, lines and units. Mathematical principles do not directly manifest the natures of things.

Yet because natural things have quantitative aspects and because the quantitative regularities of natural things do manifest the natures, mathematics is applicable to natural things. Indeed they are useful and even necessary instruments for the perfection of natural science. Modern mathematics is specially adapted for these applications, and modern physics is characterized by its use of mathematics. Physics of this type does not proceed in terms of the principles of motion, of matter and form or nature, but in terms of mathematical principles applied to physical quantities. Hence modern physics is a mixed science which differs both from pure mathematics and from natural science.

Many well-known physicists at the present time recognize the need to complement mathematical and mechanical formulations and techniques with a genuinely physical picture of reality which will at the same time be not merely naive but scientific. Perhaps the authentic method of the Aristotelian tradition when applied in natural science will furnish the foundation for which they are looking, and will enable them to integrate the various parts of our expanding knowledge of the world in an orderly family of sciences.

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THE STRUCTURE OF THE JUDGMENT— A REPLY TO FR. WALL, O. P.

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IN a recent issue of the *THE THOMIST* there appeared an interesting article by Fr. Kevin Wall, O. P. entitled "The Structure of the Concept."¹ One section of this article seems to contain some mistakes, and since the argument of that section is central to Fr. Wall's thesis, it may be useful to comment on it.

Fr. Wall proposes to set out a convincing argument that concepts must have parts in some sense other than that in which we speak of dividing them by *genus* and *differentia*. Such an argument, he says, is provided by "a consideration of the essence of human conception as ordered to judgment."

I quote his argument in full:

The judgment is basically the attribution of a predicate to a subject. When we say: A is B, we attribute the predicate conception B to the subject conception A. Now the fact of this attribution, if investigated as to its nature and possibility, indicates that both A and B (the symbolic representation of any concept whatsoever) have structure. For the judgment affirms that A is B, that is to say, that A and B are identical. But it also affirms, by the fact that there is a judgment at all, that A and B are different. If A and B are not identical then the judgment is impossible. It does not simply relate two distinct entities but poses them as identical, so that any relation besides that of identity excludes the judgment. If A and B are not different, on the other hand, then the judgment is likewise impossible or at least futile by reason of tautology. All that can be known of an object in such a case, is sufficiently achieved in one simple conception of it. It therefore follows, from the nature of the judgment, that A and B are both identical and different. How is such a situation possible?

Clearly A and B can be both identical and different only if they

¹ *THE THOMIST*, XVIII (April 1955), 228-241.

possess composition and a structure. They must necessarily be composed of fundamental parts. In virtue of one part possessed in common, they are identical. In virtue of another part different in both, they are distinct one from the other. The judgment affirms the identity of A and B in virtue of the intued common part, and poses their distinction in virtue of the intued divergent parts.

That this is necessarily true is brought out by considering another possible position. A and B are simple contents. If this be the case, and they are identified in any way, as is essential to the judgment, then they are totally identified and the judgment is pure tautology. It becomes a useless act of the mind.

This article will not attempt to show that concepts either have or have not got structure; it will be concerned simply with the argument as quoted above. There may be good reasons for saying that concepts are structured but I shall suggest that none of them are contained in the quotation given. I hope to show that Fr. Wall's analysis of the judgment is mistaken and to recommend an alternative analysis. This alternative analysis is the one proposed by St. Thomas Aquinas.

With Fr. Wall's first statement in the above quotation I am in full agreement; every other categorical statement in the quotation seems to me to be false. This may very well be due to my failure to understand him and so it will be well to begin by explaining how I interpret some of the things he says. He says: "We say: A is B"; in view of this, I take him to mean that "A is B" is a formula for a sentence, and I am sure that he means an indicative sentence which is being used to make a true or false statement. When he says that A and B are symbolic representations of any concept whatsoever, I take him to mean that in the formula "A is B" we may substitute for "A" and "B" words of any meaning we choose (provided, of course, that this yields the required indicative sentence). When he speaks of "the conception A" I take him to mean "the meaning of the word that has been substituted for 'A.'" When he simply speaks of A and of B (as, for example, when he says "If A and B are not identical. . . .") I take him to mean by "A" the same as he means earlier by "the conception A."

Let us substitute "Socrates" for "A," and "white" for "B." If, then, I have interpreted him correctly, he asserts in his second sentence that when we say that Socrates is white we attribute the meaning of the word "white" to the meaning of the word "Socrates."² Now plainly we do nothing of the sort; the meaning of the word "white" is whiteness,³ which is the concept that the word signifies, but we are not attributing whiteness to the meaning of the word "Socrates," we are attributing it to Socrates. It would be a peculiar thing to attribute a color to the meaning of a word, but if we *did* want to do so we should not say "Socrates is white" but "the meaning of the word 'Socrates' is white."

Fr. Wall goes on to say that the judgment affirms that A *is* B, that is to say, that A and B are identical, and he means by this that the conception A (in our example, the meaning of "Socrates") and the conception B (in our example, the meaning of "white") are identical. At first sight it looks as if this must mean that "Socrates" and "white" are synonymous words. Strange as it must seem, this is exactly what Fr. Wall does mean, for he goes on to say that but for the fact that this is not the whole story all judgments would be tautologies. (I take him to mean by a tautology a proposition in which the predicate term is a synonym of the subject term). However, as he points out, this is not the whole of his story, for the meaning of "Socrates" and the meaning of "white" are both structured and consist of parts. One part of the meaning of "Socrates" is indeed the same as one part of the meaning

² Some contemporary philosophers would deny that we can speak of the *meaning* of the word "Socrates," on the grounds that proper names have no meaning. I think they are mistaken in this but as there is no space to argue the point here, I can only hope that Fr. Wall is in agreement with me about this. St. Thomas unquestionably believed that proper names had meaning. See e.g., *I Periherm.*, lect. 10: "Hoc nomen 'Socrates' vel 'Plato' *significat* naturam humanam secundum quod est in hac materia."

³ St. Thomas shows clearly (*V Metaphys.*, lect. 9) that "white," even when it is used concretely as when we speak of "the whites" as opposed to the Chinese or negroes, means whiteness. The difference between "white" and "whiteness" is one of *modus significandi* and not of signification.

of "white," but there is another part of the meaning of "Socrates" which is not the same as another part of the meaning of "white" and so, after all, "Socrates is white" is not a tautology.

I hope that what I have set forth is an accurate summary of Fr. Wall's argument. I now hope to show that the notion of structured concepts is introduced in this argument in order to save us from quite illusory difficulties about judgments. I want to put forward St. Thomas' account of the logical structure of statements and I think it will appear that on his theory there is no question of concepts that are at once identical and diverse, and hence that there is no need for the introduction of the theory of structured concepts at this point. I repeat that it may very well be that there are other reasons for maintaining that concepts are structured in the way that Fr. Wall suggests, but with these reasons I am not here concerned.

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For St. Thomas, the sentence by which a judgment is expressed (the *enunciatio*) consists essentially, in its simplest form, of a name and a verb. The name may be a single noun or a complex noun-phrase, and similarly the verb may be one word or several; the important point is that there should be two parts to the sentence which should have the distinct functions of name and verb respectively.⁴ St. Thomas has no use for the degenerate tripartite theory of predication according to which all propositions consist of two terms (thought of as names) joined by a third thing, the copula. For him, "Socrates is white" consists of two logical parts and not three: "Socrates," which functions as a name and indicates what is being talked about, and "is white," which functions as a verb and says something about what is indicated by "Socrates." Using the matter-form pattern, he speaks of the subject as the

⁴ Potest autem ex solo nomine et verbo simplex enunciatio fieri, non autem ex aliis orationis partibus sine his (*I Periherm.*, lect. 1).

matter of the proposition and the verb as the principal and formal part (*pars formalis et completiva enunciationis*).⁵

Although in his general analysis of statements St. Thomas rejects the tripartite theory of two names and a copula, he does recognize that we sometimes do make statements which have this form. Such a statement is of a special kind; he calls it a *praedicatio per identitatem* and says that it is not, properly speaking, what we mean by a predication. He explains this very clearly in the *Commentary on the Sentences*: Unlike adjectives, he says,

Nouns are not only signs of a form but also of the suppositum of the form, and they may occur predicatively in either of these capacities. When a noun occurs in the predicate as a sign of the suppositum which has a certain form, the proposition is called an Identity-statement; when it occurs as a sign of a form, the proposition is called an Attribution-statement. The latter rather than the former is, properly speaking, a predication because 'terms in the predicate are taken formaliter.'⁶

I have put the last clause between quotation marks because St. Thomas is referring here to a well-known tag of the medieval logic schools. It is one which St. Thomas is never tired of referring to because it is essential to his theory of the proposition.

A term which occurs as a subject is taken *materialiter*, to stand for something, but when it occurs as a predicate it is taken *formaliter* to signify a nature.⁷

Thus in "Socrates is white," "Socrates," which is subject, functions as a name standing for the man Socrates, whereas "white," which occurs in the predicate, is not the name of white (whatever that might mean) nor is it the name of white-

⁵ *Ibid.*

⁶ Substantiva enim significant non tantum formam sed etiam suppositum formae, unde possunt praedicari ratione utriusque. Et quando praedicantur ratione suppositi dicitur *praedicatio per identitatem*. Quando autem ratione formae dicitur per denominationem sive informationem. Et haec est magis propria *praedicatio quia* termini in *praedicato* tenentur *formaliter* (*III Sent.*, d. 5, exp. text).

⁷ *Summa Theol.*, q. 16, a. 7 ad 4.

ness (the name of whiteness is "whiteness" not "white"); it does not function as a name at all, it functions as signifying (not naming) the nature whiteness.

Thus so far from saying, as Fr. Wall does, that whenever we say "A is B" we are asserting the identity of A and B, St. Thomas says that only in certain peculiar cases do we do this and that such cases are not properly cases of predication at all. They are cases in which both subject and predicate terms are taken *materialiter* and function as names. Examples of such cases are: "Abraham was Abram," and "Peter was Simon"; and the proper analysis of such a proposition is: "What the name 'Abraham' stands for is what the name 'Abram' stands for." But the proper analysis of "Socrates is white," which is a genuine predication, is not "What 'Socrates' stands for is what 'white' stands for," because "white" does not stand for anything; it is not taken *materialiter* but *formaliter*.

Nevertheless, although St. Thomas denies explicitly that whenever we say "A is B" we assert the identity of A and B, he does maintain that what we are asserting could be asserted by means of an Identity-statement, provided that we make important alterations in the form of the sentence. When we say "A is B," as an Attribution-statement, we are *not*, he says, asserting that A is identical with B, but we *are* asserting that A is identical with what has B-ness. In other words the Attribution-statement "A is B" *could* be analysed as "What the name 'A' stands for is what the name 'What has B-ness' stands for." He says in one place:

The *compositio* of the intellect differs from the *compositio* of things, for the things that are compounded are diverse, whereas the *compositio* of the intellect represents the identity of what is compounded. For the intellect does not so compound as to say that a man is whiteness, but it says that a man is white, that is to say has whiteness; for the same thing which is a man is the thing having whiteness.⁸

⁸ *Ibid.*, I, q. 85, a. 5 ad 3.

Thus the identity involved in the judgment is not, for St. Thomas, the identity of two concepts, but the identity of one thing. There is no question for him of the meanings of "man" and "white" being partially identical and partially diverse in virtue of different parts. The Attribution-statement that A is B, is about A and not about "A," or about the meaning of "A"; it asserts nothing at all about the relation between the meanings of "A" and "B."

Having presented this brief and inadequate outline of St. Thomas' theory of the structure of the judgment, I can only leave it to the reader to choose between it and the theory proposed by Fr. Wall. I have thought it necessary to criticize Fr. Wall's article on this point because the analysis, or something very like it, is found only too commonly in textbooks and manuals which claim to be "secundum mentem Divi Thomae." I think it is extremely important to recognise that the claim is, in this respect, utterly without foundation. I should like to make it quite clear, however, that I am criticizing only one short section of the article in question, and I should like to think that one good result of this essay will be that readers will turn back and re-read Fr. Wall's article which contains so much of the spirit and wisdom of the *philosophia perennis*.

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THE IMMACULATE CONCEPTION AND THE IMMACULATE HEART OF MARY

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ON November 27, 1830, Our Lady appeared to that member of the Institute of the Daughters of Charity whom we now venerate as St. Catherine Labouré. The event took place at the Motherhouse on Rue du Bac in Paris. There the Blessed Virgin showed St. Catherine the design of a medal she wished to have struck: the "Miraculous" Medal. On the front is the image of Our Lady Immaculate with the words, "O Mary, conceived without sin, pray for us who have recourse to thee," while on the reverse are two hearts, one of which is pierced by a sword.¹ Thus the Blessed Mother herself associated her Immaculate Conception with her Heart. We also, then, may be allowed to consider them together now, following too, as we shall see, the example of the Church.

Our consideration will include three points: first, the meanings of our terms; then, the influence of the definition of the Dogma of the Immaculate Conception on the development both of the Cordimarian cult in general, and in particular, on the ever mounting propagation of the chief prayer of that cult, that is, the most Holy Rosary; and finally, our third point, certain theological relations between the two.

* * * * *

The term "Immaculate Conception" may be taken in several ways. In the order of knowledge, shall we say, it designates a dogma, a solemnly defined doctrine of our faith:

Declaramus, pronunciamus, et definimus, doctrinam, quae tenet beatissimam Virginem Mariam in primo instanti suae Conceptionis fuisse singulari omnipotentis Dei gratia et privilegio, intuitu meritorum Christi Jesu Salvatoris humani generis, ab omni originalis culpae labe praeservatam immunem, esse a Deo revelatam, atque idcirco ab omnibus fidelibus firmiter constanterque credendam.²

¹ Cf. *AAS*, XXXIX (1947), 415.

² *Ineffabilis Deus*, Dec. 8, 1854, in *Coll. Lacensis*, VI, 836.

In the order of reality, however, the words "Immaculate Conception" designate first of all a remarkable fact in the life of a particularly favored person. They designate that *initial grace* with which Our Lady came into being, redeemed indeed by Christ, but by a *preventive* redemption. The same words may also be extended to signify not only that grace in its inception, but also in its *continued duration* even into eternity. Thus, we may speak *now* of the grace of the Immaculate Conception which is the basic, fundamental holiness that is hers, actually, in glory. In the order of reality there is still another sense in which the words "Immaculate Conception" are used. We may call Our Lady herself "The Immaculate Conception," intending thereby to designate her not just at the moment when she began life, but as she is now—in glory. Our Lady herself gives us the example. At Lourdes she said: "I am the Immaculate Conception."³ And in a not dissimilar way, Murillo called his masterpiece, depicting Our Lady in unique glory, "The Immaculate Conception." There is something of the same in the prayer Our Lady dictated for the Miraculous Medal: "O Mary, conceived without sin, pray for us who have recourse to thee."

The words "Immaculate Heart" designate, in theological science, a particular, but nevertheless, it would seem, an all-embracing Marian *devotion*. The Sacred Congregation of Rites, in its definitive redaction of the liturgy of this devotion, precisely gave its meaning in these words:

Sub hujus (i. e., *Immaculati*) Cordis symbolo Dei Genitricis eximiam singularemque animae sanctitatem, praesertim vero ardentissimum erga Deum ac Jesum Filium suum amorem, maternamque erga homines divino Sanguine redemptos (*Ecclesia*) devotissime veneratur.⁴

In the order of reality, the words "Immaculate Heart," accordingly, designate the *physical, living, glorious* Heart of Our

³ Cf., e. g., Pius X, *Ad Diem Illum*, ASS, XXXVI, 450.

⁴ AAS, XXXVII (1945), 44 ff.; in subsequent references to the "Decree," this document is meant.

Lady particularly inasmuch as it is a certain symbol. They designate this heart as it actually is now;⁵ particularly, however, as it has a definite symbolism. Sometimes, too, we find in approved prayers of the Church, that the *person* itself of Our Lady is indicated in the appeal to her Heart: "Dolce Cuore di Maria, siate la salvezza mia";⁶ "O Cuore di Maria, Madre di Dio e Madre nostra . . .";⁷ "O Cuore purissimo di Maria Vergine . . . ottenetemi. . . ."⁸ As St. Thomas remarks,⁹ properly speaking it is not a part, but the whole subsistent being which is venerated. In other words, in this devotion of the *Immaculate Heart*, the *mediate* or *remote* (material) object is the very person of the Blessed Virgin.

Special consideration is due the word "immaculate." Etymologically, it clearly implies being without stain or spot or blemish. Occasionally, in Latin as in English, even in speaking of the special prerogative of Our Lady, synonyms may be found, e. g., "intaminata,"¹⁰ that is, uncontaminated, unsullied, undefiled.

However, the most accepted terminology as far as the designation of Mary's Heart is concerned—or shall we say the most precise terminology, theologically speaking—is, after the Decree of the Sacred Congregation of Rites, "Immaculate." Other adjectives have been, and are still used to indicate the ineffable qualities of her Heart, but none is so distinctive as "Immaculate." St. John Eudes Mezerai, the "Father, Doctor, and Apostle of the liturgical cult of the *Sacred Hearts*,"¹¹ entitled the first ex professo theological tract on Mary's Heart "Le Coeur Admirable."¹² He employs many other adjectives¹³

⁵ Cf. Sparks, *Summarium de Cultu Cordis Immaculati B. V. M.*, pp. 20-22; in subsequent reference this work is indicated "Summarium"; cf. also Card. Agagianian in *Oss. Rom.*, 21-1-53.

⁶ *Ench. Indulg.* (Rome, 1952), n. 386.

⁷ *Ibid.*, n. 393.

⁸ *Ibid.*, n. 387.

⁹ *Summa Theol.*, III, q. 25, a. 1.

¹⁰ *AAS*, XXXV (1935), 104.

¹¹ Cf., e. g., St. Pius X, *AAS*, I (1909), 480.

¹² Cf. ed. 1935, Paris.

¹³ *Ibid.*, *passim*.

in his zealous endeavors to explain the mysteries of this heart: "Très saint," "Très digne," "Sacré." "Très auguste." In the latest edition of the *Enchiridion Indulgentiarum*¹⁴ the section containing prayers to Our Lady's Heart is entitled "Ad Cor Purissimum Mariae." The word "Immaculate," however, has a distinctiveness all its own after the definition of the Dogma of the Immaculate Conception. There Our Lady's special grace is spoken of as a *singular* privilege. And an echo of this is found in the Decree of the Sacred Congregation of Rites on Our Lady's Heart: it symbolizes Mary's "*eximious and singular* holiness." Other Saints, for example, the holy Patriarch Saint Joseph, may be said to be *most pure*, or of a most pure heart; but after 1854, at least, we are accustomed to speak only of Mary, or of her Heart, as being *immaculate*.

* * * * *

The Sacred Congregation of Rites has summed up in its decree, as it summed up in the VI Lesson of the Feast, the pre-1854 history of the liturgical cult of the Immaculate Heart thus:

Cultus liturgicus erga Cor Beatae Mariae Virginis, cuius remota vestigia praebent commentarii Patrum de Sponsa Cantici Cantorum, cuique plures mediae et recentioris aetatis viri sancti et mulieres proxime viam pararunt, ab ipsa Sede Apostolica primum approbatus est ineunte saeculo undevicesimo. . . .

Father M. Peinador, C. M. F., Father José M. Bover, S. J., and Father N. G. Garcés, in Vol. IV of *Estudios Marianos*,¹⁵ and Father John Murphy in *Mary's Immaculate Heart*,¹⁶ tell us more at length about these "pre-Ineffabilis Deus" beginnings of devotion to the Immaculate Heart.

After the Dogmatic Definition of 1854, just as Mariology or Mariological doctrine made great strides,¹⁷ so likewise did this

¹⁴ (Rome, 1952), p. 259.

¹⁵ (Madrid, 1945), pp. 11-263.

¹⁶ (Milwaukee, 1951), pp. 2-39.

¹⁷ Cf. Pius XII, "Inter Complures," *Oss. Rom.*, 25-X-54.

devotion. In 1855¹⁸ for the first time the Holy See granted a proper office to the Feast. Soon petitions for the new office were most frequent; new associations of the faithful were dedicated to Mary's Heart; the scapular of the Immaculate Heart and the Sacred Hearts, and the "Green scapular," were approved; dioceses, religious orders, nations, were consecrated to the Immaculate Heart; new pertinent indulgences were approved by the Holy See.¹⁹ Petitions were made for the consecration of the world to the Immaculate Heart.²⁰ All this culminated in the consecration made by His Holiness, Pius XII, on October 31, 1942, and on December 8, 1942; and in the frequently-mentioned above Decree of the Sacred Congregation of Rites of 1944, placing the celebration of the feast on the Octave of the Assumption, giving a definitive redaction of the liturgical cult and thus settling the precise use of the word "Immaculate"—whose meaning was made so dogmatically clear in 1854—as far as liturgical cult goes. A final added touch was appropriately given in the Marian *Centennial* Year in the Encyclical Letter "Ad Caeli Reginam," ordering the annual renewal of the consecration of the human race on the Feast of Maria Regina.²¹ This extraordinary and felicitous development and maturing of the devotion thus clearly owes much to the Definition of 1854.

The chief "a—liturgical" formulary of prayer of the devotion to the Immaculate Heart is the Holy Rosary—"hic precandi modus," says Pius XI, "quem S. Dominicus mirabiliter provexit, non sine Deiparae Virginis instinctu supernoque admonitu."²² Leo XIII spoke of the Rosary as "The prayer for (Mary's) protection offered among all nations throughout

¹⁸ Cf. *AAS*, XXXVII (1945), 50.

¹⁹ Cf. H. Pujolras, C.M.F., *Cultus Purissimi Cordis B.M. Virginis* (Milan, 1948), pp. 102, 121.

²⁰ Cf. R. Garrigou-Lagrange, O. P., *The Consecration of the Human Race to the Immaculate Heart of Mary*, trans. by Brown in *The Dominican Bulletin* (Oak Park, June 1944), p. 3.

²¹ *Oss. Rom.*, 24-X-54; *AAS*, XXXXVI (1954), 638.

²² *AAS*, XXIX (1937), 376.

the month of October to her Most Pure Heart.”²³ Pius XII began the act of consecrating the human race to the Immaculate Heart by saluting Mary as “Queen of the Most Holy Rosary. . . .”²⁴ And, Our Lady herself, the riches of whose Immaculate Heart have been particularly stressed at Fatima, is at that blessed shrine, especially after October 13, 1917, venerated above all as the Lady, or Queen, of the Rosary.²⁵

The use of this prayer so closely joined to the Immaculate Heart devotion has grown marvelously since 1854. Our Lady herself clearly wished this to happen when she—the “Immaculate Conception”—appeared at Lourdes to St. Bernadette with a Rosary attached to her girdle, and let the beads glide through her fingers as St. Bernadette said the Aves. Soon a great Rosary basilica was begun at Lourdes; and another at St. Dominic’s favored shrine of Prouille not far distant. Monasteries were formed to pray the Rosary always—“perpetually.” The very learned Sovereign Pontiff who did so much for the cause of Thomism with his “*Aeterni Patris*,” did very much also with his great Rosary Encyclicals and Letters, and with his solid re-forming of the Rosary Confraternity in the Apostolic Constitution “*Ubi Primum*” of October 2, 1898, making possible the great world-wide Rosary Crusades of our day, reminiscent, indeed, of the Rosary Crusade of St. Pius V. The modern Crusades cannot be less effective, we firmly trust, than that of 1571: Our Lady of Victory,²⁶ the Immaculate Heart, will triumph.²⁷ Just as Mariology developed, once Mary’s basic prerogative was made “clear,” so then also did the cult of her Immaculate Heart, which is a synthesis of Mariology;²⁸

²³ “*Salutaris Illi*,” *ASS* (1883), 209.

²⁴ *AAS*, XXXIV (1942), pp. 324, 345.

²⁵ Cf. *AAS*, XXXVII (1955), 210-211.

²⁶ Cf. *Bulletino del Clero Romano* (Oct. 1954), 378.

²⁷ It is interesting to note this association not only in the Feast of the Rosary but elsewhere, as in the Church of Notre Dame des Victoires in Paris—so dear to Sainte Thérèse of Lisieux—where Père Desgenettes established his famous Arch-confraternity of the Immaculate Heart.

²⁸ Cf. *Summarium*, p. 30.

and so, too, did the universal use of the Holy Rosary, that Marian prayer par excellence.²⁹

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Our last consideration is with the relation, especially the theological *rapports*, that exist between the Immaculate Conception and the Immaculate Heart.

It is well to recall here that the object of the Immaculate Heart devotion includes the Immaculate Virgin Mary's physical heart, living and glorious, a symbol indeed; but it (i. e., this object) especially embraces everything that the Church venerates under this symbol: namely, "God's Mother's eximious and singular holiness of soul, especially however, her most ardent love for God and Jesus her Son as well as her maternal affection (pietas) for men redeemed by the divine Blood."³⁰

Older theologians considered that the object of the devotion was Our Lady's love for God. Perhaps this is why some earlier pictures of the Immaculate Heart represent it surrounded only with roses. The Decree of the Sacred Congregation of Rites has made it clear for us that Our Lady's sanctity, too, is included: and in the words of the Decree there is, as it were, a hearkening back to the *Ineffabilis Deus*, in the adjectives describing this holiness as "eximious and singular." Hence Holy Mother Church in propagating the Immaculate Heart devotion which, once understood, is so instructive for the faithful, insists that under this symbol we pay explicit homage to the grace of the Immaculate Conception.

This is the grace that made Mary so wonderful in the sight of God,³¹ and which ever after He regards with such great complacency since it is His special masterpiece. This is the grace which so pleases Our Lady that she chooses to be called by it: "I am the Immaculate Conception"; and to be represented as identified with it—on the Miraculous Medal, for instance, and in the apparition, in St. Michael's Chapel at *San Andrea delle*

²⁹ Cf. *AAS*, XXXIX (1947), 504.

³⁰ Cf. *Decree of the S. C. Rit.* and *Summarium*, p. 15.

³¹ Cf. *Ineffabilis Deus*.

Fratte in Rome as the “Madonna of the Miracle.”³² This is the sanctifying grace which so perfected and filled Mary’s soul at the first instant of existence: that grace which we lovingly and with a certain majesty salute when we offer to her Immaculate Heart the “Ave, *Gratia Plena*” of Our Rosary. This is the grace, Christ’s choicest redemptive grace—“intuitu meritorum Christi”—which does not heal, is not “sanans”—for it is received in a subject without the malady of sin. Of Our Lady’s soul in her conception, we may say truly: “perfectissime illustratur a lumine gratiae.”³³ This is the grace which is in itself most positive, most wonderful, even though we must express it in a negative way, saying “the *Im*-maculate Conception.” This is that marvelous, positive reality in Mary’s soul looking to God and Christ its cause: this implies the opposite of *macula* “(quae) significat privationem quamdam nitoris animae in ordine ad suam causam quae est peccatum.”³⁴ Mary’s Conception is Immaculate: there is in her that “nitor animae . . . ex refulgentia divini luminis.”³⁵

When we lovingly admire the initial marvelous sanctity of the Immaculate Virgin, we venerate not only that wonderful quality of her soul by which she shared so greatly in the divine nature,³⁶ i. e., her sanctifying grace which dwelt in a subject entirely immune from sin and moral defect. We venerate also that initial plenitude of grace as it included the very perfect supernatural Virtues and Gifts of the Holy Ghost.

But in venerating the sanctity of the Immaculate *Heart*, we go beyond Our Lady’s initial sanctity. We venerate Mary’s *consummate* sanctity; we venerate her holiness *now*, as it is *now*; we venerate a Queen whose holiness surpasses even that which we can think of³⁷ a holiness marvelously increased by Mary’s exercise of exalted virtue during her life, a holiness now gloriously crowned with eximious merits.

³² Cf. A. Bellantonio, *La Meraviglia Romana dell’ Immacolata* (Rome, 1953).

³³ *Summa Theol.*, I-II, q. 112, a. 4.

³⁴ *Ibid.*, q. 86, a. 1 ad 3.

³⁵ Cf. II Peter 1:4.

³⁶ *Ibid.*, corp.

³⁷ Cf., e. g., Pius XII, “Ad Coeli Reginam.”

The Immaculate Heart Decree adds the word “*praesertim*” when it begins to speak of Our Lady’s *love* for God and men as the object of the Immaculate Heart devotion. That is, when we honor Our Lady’s Heart, we do recognize her great gifts from God, what God has done for her, we join in her “*Magnificat*”; we honor not only her initial but also her consummate holiness; but *above all, praesertim*, do we honor her “most ardent love for God and Jesus her Son and her maternal *piety* toward men redeemed by the divine Blood.”

The earlier practice of the devotion stressed Mary’s love for God—a love most pure and unselfish, a love which on earth resulted in the highest contemplation (notice the “*Mary and Martha*” Gospel, in the rite of the Order of Preachers, of the Feast of Saint Mary, the Assumption, August 15). But it is this pure, unifying love Mary Immaculate has for God which made her especially apt for her role of Mediatrix³⁸ and renders her now, mystically, most “sensible” to the sins against God.³⁹

Mary’s love for Jesus her Son made her one in spirit with Him. Its height, or depth as you will, made all the more profound her part on Calvary, her offering to God for our sakes of her most loved Treasure effected, in its subordinate role, of course, our salvation.

And it is this love for Jesus that accounts also for that object of veneration in Cordimarian cult which is God’s Mother’s “maternal piety for men, redeemed by the divine Blood.” It is because Mary sees Christ in us, sees souls for which her divine Son died, that she loves us. In venerating the Immaculate Heart, we honor not only that maternal *piety*, which St. Thomas calls the immediate effect of charity,⁴⁰ which wrought, with Christ, our salvation on Calvary, but that maternal piety

³⁸ Cf. *Summa Theol.*, III, q. 26, a. 1; C. Larnicol, C.S.Sp., *De Verbo Incarnato et de B. V. Maria* (Rome, 1948), p. 223.

³⁹ Cf. Pius XII on the Virgin of Siracusa, in *Oss. Rom.*, 19-X-54; *AAS*, XXXXVI (1954), 660; Garrigou-Lagrange, “*La Capacité de Souffrir en Marie Immaculée*,” *Angelicum* (Nov. 1954); Sparks, “*Reparation to the Immaculate Heart of Mary*,” *From an Abundant Spring* (New York, 1952), p. 39 ff., and Italian edition, Rome, 1955.

⁴⁰ *I ad Tim.*, c. 4, lect. 2.

Mary has for us now in heaven. She, Suppliant Omnipotence, is there, our Queen, always making unique intercession for us, pleading her children's cause, imploring the graces she merited for us at Calvary. For this maternal piety, exercised on earth and now in heaven, Mary's Immaculate Conception and its consequences of immunity from concupiscence and all moral defect, was a most apt preparation. It rendered her soul worthy of the office of the New Eve, the perfect mother of all that live in Christ, the *ever* most faithful consort of the New Adam in the work of the Redemption of the human race.⁴¹

Sin tends to "harden" our hearts, to dull our hearts to the gravity of offenses against God. Mary's perfect freedom from sin, her "immaculateness," enabled her to appreciate the enormity and gravity of sin. Her heart, filled with love for God and men, was most "sensible";⁴² and even now may we not speak of that mystical "sensibility" which finds its expression in such apparitions as that of the "Weeping Madonna" at La Salette?⁴³

The consideration of Mary's Heart, of her great love for God and man, of her most profound realization of sin as an offense against God and the greatest evil of man, naturally gives rise to our desire to return that love by consecration,⁴⁴ and to make amends to Our Lady's *Sorrowful* and Immaculate Heart.⁴⁵ This consecration the whole world will henceforth renew on each May 31.⁴⁶ This reparation many souls make especially

⁴¹ We add this note on the physical heart of Mary, "Immaculate": Mary's immaculateness, in the beginning and through her life, included freedom even from movements of concupiscence. Inasmuch as all movements of our soul are "reflected" in the physical organ of the heart—the heart is thus the "manifestive" organ (cf. P. Parente, *Il Cuore Immacolato* (Rome, 1946), p. 25)—there is a certain cleanliness, integrity, immaculateness in Mary's heart that we legitimately also venerate.

⁴² Cf. *Ench. Indulg.*, n. 383: "Il Vostro sensibilissimo Cuore."

⁴³ Cf. also on the "Madonna of the Tears, of Siracusa," *Oss. Rom.*, 19-X-54; *AAS*, XXXXVI (1954), 660.

⁴⁴ Cf. Pius XI, *Miserentissimus Redemptor*, *AAS*, XX (1928), 169.

⁴⁵ Devotion to the Immaculate Heart in us, in our souls, pertains to the virtue of hyperdulia (cf. *Summarium*, p. 29), and to the Holy Spirit's gift of piety.

⁴⁶ Cf. Pius XII, *Ad Coeli Reginam*, *Oss. Rom.*, 25-X-54; *AAS*, XXXXVI (1954), 638.

on First Saturdays⁴⁷ and thus the practice of the reparation to the Immaculate Conception on First Saturdays which St. Pius X indulgenced⁴⁸ finds its complement in reparation to Mary's Immaculate Heart.

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The Immaculate Conception then and its dogmatic definition are basic in the devotion of the Immaculate Heart. The devotion rapidly reached its definitive development once the dogma was declared; the use of its special formulary of prayer, the Rosary, reached world-wide proportions. The rich import of the devotion is only understood once Mary's fundamental immaculateness is given its proper appreciation. May Maria, Regina, further such understanding and appreciation.

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⁴⁷ Cf. Murphy, *op. cit.*, p. 110.

⁴⁸ Cf. *AAS*, IV (1912), 623.

JAPAN, PHILOSOPHY AND THOMISM

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THE history of mediaeval philosophy, largely in the sense of Thomism, did not begin in Japan with the introduction of Christianity in the sixteenth century. At that time several seminaries were established by Jesuit and Franciscan missionaries, but no active philosophical movements seem to have followed. A Japanese translation of the *De Imitatione Christi* appeared in 1596, only some forty years after the arrival of St. Francis Xavier, and was one of the outstanding literary productions of the period. There seems to be special significance in the fact that this book was chosen. Probably the Fathers thought it was a work most likely to find sympathetic readers among the Japanese, and it is noteworthy that since then there have been at least four more renderings. Unfortunately, religious persecutions, which began at the beginning of the seventeenth century and lasted until 1870, wiped out virtually everything in Japan related to Christianity.

Japan's acquaintance with mediaeval philosophy actually begins with the re-introduction of Western thought in the latter part of the nineteenth century. But the history of scholasticism in Japan cannot be divorced, if it is to be understood, from the progress in that country of western philosophy in general. And so a synopsis of Japan's reaction to some important European thinkers may helpfully preface a study of Japan's attitude towards mediaeval philosophy in general and Thomism in particular.

I

Five periods may be distinguished in the career of European philosophy in Japan. Period I: 1878-1890—from the inception of the department of philosophy in the Imperial University of

Tokyo¹ to the opening of the National Diet. This period was marked by what may be called a Japanese equivalent of the *Enlightenment* in political and philosophical thought. The new government of Emperor Meiji, which overthrew the old and entrenched feudal despotism in 1868, at least professed democratic principles and promised the people equal social, political and economic opportunities as well as a share in government. The spirit of the times was practical. It aimed at destroying feudalism, establishing democratic processes and accelerating economic expansion. These objectives were manifest in the European philosophical systems which, because of what they might be expected to contribute to the new outlook, were seized upon by Japanese intellectuals. Emphasis was on political, economic, social and legal theories. Writers such as Jeremy Bentham (1748-1832), J. J. Rousseau (1712-1778), and C. L. Montesquieu (1689-1755) were read, studied, absorbed and popularized. Translations appeared, and the doctrine of the divine origin of human rights proved especially captivating, spreading beyond academic walls into popular discussion. J. S. Mill (1806-1873), with his Utilitarianism, and Herbert Spencer (1820-1903) found ardent champions. Darwin (1809-1882), with his theory of evolution, and Ernest Haeckel (1834-1919), with his materialism, also won followers.

Period II: 1890-1905—from the opening of the National Diet to the end of the Russo-Japanese War, is doubly significant. For one thing, philosophical and critical thinking becomes more and more isolated from contemporary social and political movements and more restricted to academic theorizing. The other development is the cultivation of German philosophers, such as Kant (1724-1804), Hegel (1770-1831), Schopenhauer (1788-1860), Eduard von Hartmann (1842-1906), Wilhelm Wundt (1832-1920), Johannes Volkelt (1848-1930), Nietzsche (1844-1900), and R. H. Lotze (1817-1881). It is noteworthy

¹ From the beginning, the Imperial University of Tokyo was, and continues to be, preeminent in philosophical movements. Other Japanese universities tend to accept and follow its leadership.

that the disassociation of philosophy from practical considerations parallels the introduction and cultivation of German writers.

Period III: 1905-1918—from the end of the Russo-Japanese War to the close of World War I. Japan's victory over Russia touched off tremendous economic expansion. National industry soared while in philosophy German idealism predominated. Kant, Fichte, Schelling and Hegel proved most attractive. Their major works were translated; their doctrines were studied privately and presented in formal university courses. Raphael von Koeber (1848-1923) came to enjoy immense prestige among the young students at the Imperial University of Tokyo. For many of them, even generations after his death, von Koeber's name was magic. Since this outstanding scholar played a unique role in calling the attention of Japanese thinkers to mediaeval thought and in vindicating its value for contemporary problems, something further will be said about him.

Period IV: 1918-1931—from the end of World War I to the Manchurian Incident. Japanese industry and trade, suffering like the rest of the world an economic depression, began to experience serious difficulties. Manifold and bitter conflicts were rampant within the nation. Intolerable social conditions begot radical ideologies and desperate panaceas which eventually drove Japan into a tragic war.

Most significant, perhaps, in this period is the fact that Japanese philosophy showed signs of being less absorbent of foreign systems and more mature in developing its own syntheses—even if they still owed much to Europeans. Excellent and comprehensive dictionaries of philosophy appeared. This type of publication, in addition to requiring long and persevering labor, also demands wide and critical knowledge, accurate terminology and presupposes that there is a buyer's market to make the venture feasible. Then there was a series of text-books covering the whole field of philosophy (*Philosophical Texts*), which were produced by representative

Japanese authors from time to time. Noteworthy also in this period is the cultivation of Greek philosophers. Up to this time the general attitude seems to have been that only modern thinkers had anything to offer. Now there is an awareness and appreciation of the greatest among the Greeks. For example, Plato's works as well as Aristotle's major treatises were translated directly from the original. A fourth sign of maturity is a new attitude in studying philosophical, and especially modern and contemporary, systems. There is more exactness and thoroughness. Able translations of Kant, Hegel, Descartes, Spinoza and Leibniz appeared. The Neo-Kantianism of Rudolf Eucken (1846-1926), Heinrich Rickert (1863-1936), Emil Lask (1875-1915) and Wilhelm Windelband (1848-1915)—the Phenomenology of Edmund Husserl (1859-1938) and Max Scheller (1874-1928)—and finally the *Lebensphilosophie* of Wilhelm Dilthey (1833-1911) and Georg Simmel (1859-1918) were introduced, studied and variously accepted and championed by students and intellectuals.

A fifth evidence of Japan's philosophical growth in this fourth period is the effort of some of her philosophers to produce their own systems out of western and oriental thought. Of these, most famous and influential was Kitaro Nishida (1868-1945), whose name became attached to his creation. Following are some of his noteworthy writings: *Treatise Concerning the Good, Speculation and Experiment, Direct and Reflex Elements of Consciousness, Main Problems of Consciousness, Art and Morality, Basic Problems of Philosophy, Antithesis Between Action and Pure Thought*.²

Because of Nishida's reputation as the first and foremost of Japan's original thinkers, something further should be said about his philosophy. He aimed to fuse the rationalism of Cartesianism and German idealism on the one hand with opposite trends as represented by Kierkegaard, Nietzsche and

² English titles given to these and other Japanese works to be mentioned are not always literal translations and sometimes are English equivalents to describe the work rather than a simple translation of the title.

Bergson on the other. Harmony was Nishida's goal. So he sought some metaphysical system in which the contradictions between opposed principles of rationalism and irrationalism might be resolved, such as between subject and object, spirit and matter, being and non-being. His solution was to emphasize the need of radically and profoundly understanding "the ultimate reality." In Nishida's thought this "reality" apparently turns out to be a concept of "nothingness"—which must be understood in its Buddhistic and tantalizing elusiveness. For whatever else it may mean, it does not signify nothingness pure and simple. Nishida's terminology reveals strong Hegelian influences. In fact his philosophy might be said to be an attempt to explain oriental philosophical thought in terms of European, and especially Hegelian, logic.

The final feature of this fourth period (1918-1931) which surely deserves notice is leftist tendencies among some university students and popular writers. Marxism, however, never achieved formal academic status in the sense that it was presented in the universities as an acceptable *philosophical system*—as, for example, Hegelianism had been. Marxism was more of a popular movement, of which professional philosophers and thinkers took a dim view. They did recognize, though, the potent character of *some* of Marx's economic and social theories, which were actually winning over more or less radical students and writers and finding fertile soil among the lower social strata and working classes. While leftist movements reflected critical social and economic unrest and disillusionment and impatience for some quick stop-gap, Marxism was short-lived—but only on the surface. For under military suppression, it went underground, where it continued to exist, and blossomed into fuller and more vigorous life than ever when the militaristic regime fell in 1945, at the end of the war.

Period V: 1931 to the present—In 1934 some right-wing revolutionaries, led by young officers, made a futile attempt to overthrow the government and set up a socialistic regime. In 1937, Japan moved into China and finally, in 1941, came war

in the Pacific. War, race, nationalism, propaganda and victory became the philosophers' assignment, and purely academic pursuits for the most part stagnated.

Yet, and astonishingly so, there were signs of philosophical activity. During these years of all-out war, the new realism of Martin Heidegger (1889-1949), Karl Jaspers (1883-), Nicolai Hartmann (1882-1950), and Max Scheler (1874-1928), the existentialism of Kierkegaard (1813-1855), Nietzsche (1844-1900), and L. Shestow (1866-1938) either were introduced or were given more attention. It may also be mentioned, that Pascal acquired an entirely new, if limited, popularity. The major works of these thinkers were translated, seriously read and discussed—while more in the order of a fad some university students and intellectuals took up with nihilism and Sartre's brand of existentialism.

II

Unfortunately, Western philosophies which came earliest into Japan and were more or less favorably received represented modern thinkers who for the most part ignored or rejected mediaeval thought. Japanese students of philosophy absorbed or uncritically accepted this supercilious attitude and dismissed scholasticism as obsolete—to be classified with geocentric theories of the universe or Aristotelian science. This attitude still largely prevails. Few Japanese philosophers recognize scholasticism and Thomism as having any meaning or value for twentieth century life.

Raphael von Koeber (1848-1923), a Russian-born, German-educated philosopher, raised something of a storm when he vigorously and brilliantly argued that mediaeval philosophy was not extinct—was not the lifeless and pointless philosophical-theological synthesis, which it was the fashion to notice only by way of condemning it. In Japan Koeber's views were as remarkable as the man himself. A specialist on Eduard von Hartmann and Schopenhauer (*Philosophical System of E. von Hartmann*, 1884; *Philosophy of Schopenhauer*, 1887)—both in

German), Koeber came to the Imperial University of Tokyo around 1893 and taught there until 1914, when he retired, leaving behind enduring memories of his influence upon students. His *The Need of Research in Theology and Mediaeval Philosophy* (1905) startled many a reader with its incredible thesis, that understanding Western civilization meant studying Christian theology and mediaeval philosophy.

Stimulated by Koeber, a number of students began to be more scholarly towards Greek and mediaeval thought. Among them was a Japanese named Soichi Iwashita (1888-1940), who turned to scholasticism in earnest and with considerable success. His dissertation on Augustine's philosophy of history in *The City of God*, written for his degree at the Imperial University of Tokyo, won high praise and was later published. More than that, he was selected by the Ministry of Education for further study in Europe—with astonishing results. Iwashita became a Catholic and studied for the priesthood in Rome, where one of his teachers was the famous Dominican, Father Garrigou-Lagrange.

Back in Japan, Father Iwashita taught at the provincial seminary in Tokyo and participated in various intellectual movements. He founded a periodical devoted to philosophical and theological discussion, which went simply by the name *Catholic* and proved a valuable outlet for Japanese Catholic intellectuals. Later Father Iwashita became head of a leper hospital near Tokyo—an assignment which probably entailed considerable sacrifice for a man of his scholarly bent. He died in the hospital on the feast of St. Francis Xavier, December 3, 1940.

Father Iwashita's writings were popular as well as scholarly. His *The Catholic Faith* (an explanation of the catechism) is probably one of the best known and most widely read Catholic publications in Japan. His more scholarly works were collected and published after his death. Volume One, *The Deposit of Faith* (1941), contains his theological and scriptural treatises. The second volume, *Studies in the History of Mediaeval Philosophical Thought* (1942), contains his philosophical essays.

His unpedantic, lively style as well as his solid scholarship merited and have won the esteem of both Catholic and non-Catholic readers. But Father Iwashita's major objective must be remembered. He worked and wrote to win students and intellectuals to the Church—never simply for academic purposes.

Yoshihiko Yoshimitsu (1903-1946), a disciple of Father Iwashita, after graduating from the Imperial University of Tokyo (1925), went to France and studied under Jacques Maritain. Upon his return to Japan, Yoshimitsu translated Maritain's *Introduction to Philosophy* and produced numerous articles on the Thomism of Maritain. Later he taught ethics at the Imperial University and although a layman lectured in the provincial seminary in Tokyo, where Father Iwashita had labored so successfully. Yoshimitsu took a prominent part in intellectual affairs and, after Father Iwashita's death, became the unofficial spokesman for Catholicism and Thomism in Japan. He was especially able in the field of literary criticism, evidenced by his papers on Dostoevski, Mauriac, Pascal, Kierkegaard and others.

Yoshimitsu's collected works were published after his death in four volumes—volume I, *Culture and Religion* (1947), volume II, *Studies in the History of Mediaeval Philosophy* (1948), volume III, *Studies in the History of Modern Philosophy* (1949), and volume IV, *Mysticism and the Contemporary World* (1952). Noteworthy especially for this article, is his "The Metaphysical Structure of the Concept of God in St. Thomas" now found in volume II, but originally published in 1932. It typifies Yoshimitsu's preoccupation with Aquinas and reveals his grasp of the *Summa Theologiae*; it accords perfectly with his aim to win a place for mediaeval philosophy in Japan—at least on a par with Kant and Hegel.

Among colleagues and disciples of Yoshimitsu should be mentioned another layman, Dr. Masao Matsumoto, who is still living and the author of a notable work *Studies on the Ontological Basis of Logic*. In its five hundred pages Dr. Matsumoto seems chiefly engaged in working out a correlation

between logic and reality. Just as there are various modes of being, real being, such as substance, accident, property, value and validity, so, he appears to think, there should be appropriate recourse not to just one logic but to the logic most appropriate to the subject-matter. One should not, therefore, tie himself to one kind of logic, but, depending on the kind of reality involved, have recourse to Platonic dialectics, Aristotelian deduction, modern scientific induction and to what he calls a logic of value, since there are judgments of value.

In the course of the gradual recognition—if not acceptance—of the philosophy of Thomas Aquinas by Japanese intellectuals, the contribution of still another layman deserves mention. Converted from Protestantism to Catholicism under the influence of Father Iwashita, Dr. Tanaka, who is presently the Chief Justice of the Supreme Court, held distinguished posts as professor of law in the Imperial University of Tokyo, as Minister of Education, and as a member of the House of Councillors of the National Diet. Dr. Tanaka has been and is an outstanding spokesman for a Thomistic theory of natural law. He has defended and expounded Thomas' juridical doctrines in a monumental work, *A Theory of World Law* (3 volumes, 1932-1934), and in numerous other scholarly writings.

In 1954 a volume entitled *Natural Law and World Law* was published in Japan to honor Dr. Tanaka. This work includes contributions from distinguished jurists and lawyers from all over the world and pays eloquent testimony to the reputation of Dr. Tanaka as well as to his eminent accomplishments in focusing attention in Japan on Thomas Aquinas and his philosophy of natural law.

A definite sign of encouragement and progress is evidenced by the fact, that the 1946 Constitution of Japan accepted some basic natural law principles relating to human nature and social affairs. This was a radical improvement over the past and helps to explain why there has been manifestation of growing interest among jurists and students of political science in conceptions of natural law. It is not being overly optimistic to see in these developments some promise that more and more

Japanese thinkers will turn to the thirteenth century saint and philosopher—not to raise antiquarian dust but to adapt the wisdom of the ages to the critical complications of the present.

III

After some fifty years, Thomism, which is practically a synonym for scholasticism in Japan, is far from being generally received and farther still from playing a decisive role in the nation's thinking. From what has been said, however, it should be evident that the philosophy of St. Thomas is making headway and winning some champions among Japanese intellectuals. It should be further noted that the Jesuit Sophia University in Tokyo sponsors an "Aristotelian-Thomistic Society," which was established to promote the study and growth of Thomism in Japan. Other Catholic colleges and some State universities, like Kyoto and Kyushu, offer courses in the philosophy of Aquinas, which are taught by Dominican professors—even though they are State institutions.

As yet there is no complete Japanese translation of all of Aquinas' major works, although there are renderings of the following: *Summa Theologiae* (I, qq. 75-102), by Keiji Kokubu, 1950; *Summa Contra Gentiles* (Book I), by Ryokichi Sakai, 1935; *De Ente et Essentia*, by Sumio Takakuwa, 1935. However, works on the philosophy of St. Thomas by Grabmann, Maritain, Gilson, Roland Gosselin, and others, have been translated and are widely read.

At present there is a project to translate the entire *Summa Theologiae* and other writings of Aquinas. Increased interest in the teachings of St. Augustine and the Fathers of the Church, of St. Anselm, St. Albert the Great, St. Bonaventure, Roger Bacon and the mystics of the fourteenth and fifteenth centuries among Catholic as well as non-Catholic scholars may be taken as a hopeful sign that these Christian writers may eventually receive the recognition they deserve.

But it must be admitted that recognition and cultivation of mediaeval philosophy in Japan suffers greatly in contrast to

the attention modern European thinkers have received. But, as the preceding review suggests, Japan's acquaintance with Western thought has not produced in any sense a nationally acceptable system of philosophy. Frankly eclectic, Japanese philosophers have picked and chosen and in various degrees assimilated what seemed to them to promise most in the way of promoting academic goals or social and economic ambitions.

Today Japan faces not only new problems but the prospects of an entirely new realization of human rights in a nation which is gradually developing a new philosophy. What this will eventually turn out to be is uncertain. But whatever it be, it will mightily affect the Catholic Church in the Orient. Thomas Aquinas has been said to have synthesized the best of Greek thinking with Christian truth. What is needed now in Japan is that Japanese Catholics assimilate the great mediaeval saint and do with his teachings in their own day and for their own problems what he did in his day for its problems. It is not a matter of recovering the past to embalm it in ponderous tomes, but of using the best of the past to make the best of the present. That some significant and courageous and successful advances in this direction have been made in Japan has been noted in this survey. One can only hope that they will continue, that they will multiply and in the end make their contribution towards winning Japan for Christ.

NOTE: For its bibliographical material, this article draws largely from untranslated works in the Japanese section of the Library of Congress. Instead of transliterating titles, it seemed more practical to translate them and instead of naming publishers to give the catalogue number of the Library of Congress, where most of the works have been entered. Some, although in the Library, have not been processed, while a few are probably not available in the U. S. A. at all.

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BOOK REVIEWS

Truth and Freedom. By LOUIS DE RAEYMAKER and Others. Edited by ANDREW G. VAN MELSEN and HENRY J. KOREN, C. S. Sp. *Duquesne Studies, Philosophical Series, Vol. 5.* Pittsburgh: Duquesne University Press, 1954. Pp. 140 with index. \$3.00, cloth. \$2.25, paper.

Academic Freedom. By RUSSELL KIRK. Chicago: Regnery, 1955. Pp. 210 with index. \$3.75.

Truth and Freedom is the fifth work in the philosophical series titled *Duquesne Studies*, edited by Andrew G. Van Melsen, D. Sc., D. Ed., and Henry J. Koren, C. S. Sp., S. T. D. At the request of the authors, Father Koren translated the seven essays in this collection directly from the manuscripts. The original French edition and the English translation appeared at about the same time in 1954 as a contribution of the University of Louvain to the bicentennial celebration of the founding of Columbia University. In a brief dedication to Columbia, Msgr. Honoré von Waeyenbergh, Rector of Louvain, explains that these essays by outstanding professors of the Higher Institute of Philosophy at Louvain are in response to the invitation to take part in Columbia's bicentennial by discussion of "the ideal of full freedom of scholarly inquiry and expression, the right of mankind to knowledge and to the free use thereof."

In the first essay, "Truth and Freedom according to Cardinal Mercier," Louis de Raeymaker, President of the Institute, provides an illuminating resumé of the Cardinal's work at Louvain. Stressing the distinction between "science-in-the-making" and "established science," the author points out that the organization of research for "science-in-the-making" is one of the chief functions of the modern university and Mercier founded the Institute in an effort to apply the concept to philosophy. This research was to be under the guidance of St. Thomas, whose philosophy, Mercier said, is not a kind of mummy but "an organism which is always rejuvenated and always active and which by personal effort must be maintained and nourished to secure its perpetual growth." (p. 20) The contact with the physical sciences and other philosophies required for the development of this organism could be ensured by the team-work of an institute. Cardinal Mercier regarded truth and freedom as central to research in every field and held that "the best service which researchers could render to religious truth in the realm of science was to surrender themselves to their research with all their powers." (p. 15) In a religious man fear of scientific, historical or philosophical truth does not spring from faith, but from a lack of faith.

"Truth and Freedom, A Philosophical Study" is a well-done summary of traditional doctrine by Albert Dondyne. The essence and structure of human freedom and human truth are expounded before their relationship is discussed. Freedom has three meanings, all closely connected. It means "a certain ideal of existential perfection . . . a certain maturity of mind and personality arising from the fact that one has become a *master* in one or other domain of life." (p. 30) It also means "free choice." And in its sociological and political sense it means "*the sum total of the economical, social and political conditions* that are necessary for the concrete exercise of freedom and effective liberation of man's personality." (p. 33) The complexity of human truth is evident from the fact that it exists on four levels: "There is the truth of the familiar world around us; there is also the distinct truth of positive science; there is the truth pursued by philosophy, and, again, the distinct truth that religious Faith allows us to touch and cherish." (p. 35) In explaining how freedom, in all three senses, is based on truth, the author suggests that the principal cause for the decline of freedom today is ignoring its foundation in *reason*. "It is characteristic of our times that even philosophers labor under an ill-advised irrationalism and tend to separate freedom and truth." (p. 39) Nietzsche, Gide, Sartre, and the Marxists serve as examples.

Jacques Leclercq, President of the School of Political and Social Sciences, treats "Freedom as a Moral and Social Value." He uses an abundance of helpful illustrations. But in expounding morality's basis in reason and freedom, he is misleading, to say the least, when he says that in some lives dominated by lust or greed the function of free will is "almost non-existent." (p. 54) He describes an action "performed under the pressure of affective or sensitive tendencies, or under the pressure of emotions and passions" (p. 52) as if it could never be more than an *actus hominis*. The difference between antecedent and consequent passion is neglected also.

The first and most difficult problem of social science is determining the degree of restraint and liberty. The solution lies in constraint for the sake of freedom, on the principle that "whenever a constraint is established, it must be justified by an increase of freedom." (p. 61) Traffic rules become stricter, for example, for the sake of the fuller freedom of movement they promote. No simple solution exists, however, for all the complications of concrete cases. But if society aims to encourage "self-government" in the individual rather than to produce conformity, a general orientation will develop in favor of freedom.

The briefest essay, and one of the best, is Joseph Nuttin's "Freedom and Psychological Truth." Since psychology influences man's view of himself and every culture is primarily "the realization and concretion of man's view of himself," (p. 69) freedom in this field both in research and teaching

is very important. In research there is only one limit—truth itself. Aristotelians will be startled when they read that “*science* is not unqualifiedly synonymous with *truth*,” (p. 70) but Nuttin’s meaning is clarified when he later substitutes the better terms “*scientific theory*” (p. 72) and “*Science in-the-making*.” (p. 73) Nuttin appeals for prudence in the disclosure of unproved *theories*, especially since every psychologist has philosophical views which influence his interpretation of data. “A critical mentality forbids us to confuse *scientific theory* and *truth*. . . . To present to the public at large, which does not have enough critical sense, every psychological ‘*discovery*’ as the last word in ‘*truth*’ would amount to giving the science of psychology an import it does not have. . . . It is therefore in the name of truth itself that a certain amount of reserve is fitting, especially in the domain of psychology. . . . On the level of research, however, and within the framework of strictly scientific teaching, the rights of truth are not violated by its mixture with error—a state of affairs that often obtains in ‘*science-in-the-making*’—because a man of science may be supposed to have enough critical sense.” (pp. 72-73) Since certainty is not easily attained, “the psychologist will do well not to demand for each of his ‘*data*’ and scientific theories the indisputable rights willingly granted to ‘*truth*.’” (p. 75) With regard to academic freedom, Nuttin upholds the right of a university not to tolerate in a teaching position a professor whose philosophical and religious views of man are opposed to those of the institution. But if his activity is confined to pure research, wider freedom can be justified.

Roger Aubert contributes an essay on “The Freedom of the Catholic Historian.” He shows that a Catholic should find no difficulty in observing the two rules for every historian: “let him not dare to say anything false, and . . . let him not be afraid of saying anything that is true.” (p. 80) Only a false theology could lead him to think that his scientific freedom is impeded by his religious convictions. Professor Aubert provides a number of excellent examples to support his position that faith in Christ’s Church frees the historian for that “tranquil research, without animosity or bias, by which nowadays more than in former times the facts of the past are reconstructed” (Pius XII). (p. 80)

In “Freedom of Research in the Physical Sciences,” Jean Ladrière studies the problem first from the viewpoint of the internal coherence of human knowledge and then from the viewpoint of man’s social organization. A good treatment of the independence, interrelationships, and limitations of the sciences is marred by awkwardness in the translation, which elsewhere is adequate. Perhaps the author must share the responsibility, however, since the translator presented the English version to each essayist for correction and approval. But to call salvation “the objection of theology”

(p. 100) is more than a grammatical or typographical error. In treating of the social organization of scientific research, Professor Ladrière issues the customary warnings against the danger of external controls, especially of a political nature. But he finds the universities are truly independent and consequently can serve as worthy models for the great research laboratories outside the universities which are inspired by the same desire for truth.

In the last essay Charles Moeller discusses "Freedom and Truth in Literary Critique." His thesis is that the literary critic needs freedom in order to fulfill his task of penetrating and judging a work. He holds with Charles Du Bos, whose view of literature is contrasted here with Sartre's, that the believing critic is freer than an unbeliever, since "religion *enriches* the vision of the literary world, because it adds supplementary categories of thought, new 'geometric dimensions' in depth, the dimension of grace at the top, and that of sin at the bottom." (p. 123) Here again, it may be added, the translation is occasionally faulty, not so much unclear as annoying, e. g., "Where there is the most of love . . . there is also the most of truth." (p. 125)

These essays will be of value chiefly to those trained in other philosophical traditions. Since theological considerations are touched upon but not emphasized, the general reader will have to look elsewhere for a fuller statement of the Church's doctrine on freedom and truth, in Leo XIII's *Libertas Humana*, for example. These essays, with their unity in principle and consistency in application, suggest an interesting question: What sort of collection would emerge if Columbia University attempted a similar project to honor Louvain?

Judging from the whole tone of *Academic Freedom* as well as several clear statements of his philosophical and religious position, Professor Russell Kirk would surely find little to disagree with in the essays of the Louvain professors. Philosophically, he follows St. Thomas Aquinas, Hooker, and Burke. Theologically, although "not a champion of any especial orthodoxy," he calls himself "a humble friend to religious principle," (p. 46) maintains that "the fountain of learning, and of liberty, is religion," (p. 31) and holds with Newman "that theology is the queen of the sciences and that religion is the most important of all subjects in the university." (p. 121)

Dr. Kirk shares with the Louvain writers an awareness of the basic dependence of liberty upon truth. He appreciates also the importance of definitions and in his first sentence provides the best definition of academic freedom he has found. It is "the principle designed to protect the teacher from hazards that tend to prevent him from meeting his obligations in the pursuit of truth." (p. 3) Perhaps a definition of freedom in general should have been given too, since, as Burke wrote, "Of all the loose terms in the

world, liberty is the most indefinite." But this is only an exploratory essay in definition, not a comprehensive survey, and we cannot ask for too much.

Dr. Kirk traces the beginnings of academic freedom back to Plato's Academy and to the medieval universities. He shows that these "rights" are based on custom and moral prescription rather than on positive law. In passing, he points out that those theorists who deny natural law must in consistency deny academic freedom too.

Throughout the book Dr. Kirk crosses swords frequently with Robert Hutchins and Sidney Hook. His first thrust is at their attempt to secularize the origin and concept of academic freedom. He accuses them, among other things, of bad history. "We ought not to endeavor to revise history according to our latter-day notions of what things *ought* to have been, or upon the theory that the past is simply a reflection of the present. The medieval universities did indeed enjoy academic freedom, in a larger measure, than any academies before or since. But they enjoyed that freedom *because of* their status as religious institutions, not in despite of it." (pp. 16-17) In America, as well as in Europe, the principal support of academic freedom has been "the conviction, among scholars and teachers, that they are Bearers of the Word—dedicated men whose first obligation is to Truth, and that a Truth derived from apprehension of an order more than natural or material." (p. 29)

Threats to academic freedom come from within the colleges and universities as well as from outside. Dr. Kirk dissects the doctrinaire secularists and educational levellers, men like John Dewey, Alexander Meiklejohn, and Sidney Hook, whose worship of Demos and dedication to democracy are basically religious attitudes. "We all have our dogmas, deny them though we will." (p. 48) Their secular dogmas of pragmatism and progress breed an intolerance gravely dangerous to freedom. A case history, an account of the dismissal of Dr. Frank Richardson by the University of Nevada in 1953, is presented in detail to illustrate the hostility to dissent among educationists such as these.

There is far more freedom in private institutions than in public, Dr. Kirk found, and bigotry is the basis of the charge of Dr. Hook that "there is no academic freedom in Catholic colleges." (p. 43) In another camp too, Dr. Kirk finds intolerance practiced while tolerance is preached. "As among the pragmatists and progressivists, so among the conservatives and scholastics of education there are men who talk a great deal concerning academic freedom but fail to give reality to their words." (p. 74) He has strong criticism here of Robert Hutchins for his role in the dismissal of W. T. Couch as director of the University of Chicago Press in 1950 after he published a book despite objections from the administration of the University.

In a chapter on "The Professor in Politics" Dr. Kirk has many sound and sensible comments on current issues. He holds that "the community of scholars" is not a law unto itself and that "limitations may be imposed upon academic freedom for the sake of preserving academic freedom." (p. 17) As regards investigations of subversion in education, he writes, "There is no reason to suppose that the average professor is a better judge of what affects the security of the United States than is the average legislator." (p. 142) "Just how dangerous the Communists in our colleges have become is a matter for debate; but legislative bodies are neither tyrannical nor hysterical in looking into the matter." (p. 46) Use of the Fifth Amendment by professors according to "principles of home-made constitutional law" is severely criticized. On loyalty oaths he remarks, "Oath-taking is anything but the mark of servility. . . . A man ought to feel honored, in most circumstances, that his fellows ask him to take an oath. . . . I do not see why any teacher should feel humiliated at being requested to promise loyalty." (p. 149)

William Buckley's *God and Man at Yale* comes in for sharp criticism. Dr. Kirk strikes at Buckley's most vulnerable point, his support of individualism. Perhaps he might have mentioned also the highly relevant distinction Mr. Buckley emphasized between the larger freedom required by the scholar in research and the more limited freedom of the teacher in the classroom. But Mr. Buckley has already called attention to the oversight in his own review of *Academic Freedom* (*The Freeman*, vol. 5, no. 13, July, 1955, p. 576).

In his final chapter the author suggests some practical methods of promoting academic freedom among members of a profession more concerned, he says, with security than independence. Among improvements of an institutional character, some administrative, others financial, he proposes that college and university executives be scholars first and administrators second. "The domination of a body of learned men by a corps of administrative technicians is a . . . standing threat to academic freedom." (p. 167)

He adds his voice to the swelling chorus of men like Arthur Bestor, Mortimer Smith, Albert Lynd, and Bernard Iddings Bell now demanding reformation of the educational system on every level. The policies which are turning colleges into degree-mills and "custodial institutions" do not promote freedom, or education either. "What most colleges are doing nowadays is simply what inferior high schools were doing thirty years ago. . . . In our anxiety to give everyone a college degree, we are giving no one an education." (p. 179)

Though he has generally side-stepped the traps set for the unwary by the verbalizing of liberals and relativists, Dr. Kirk slips into a snare when

he condemns "indoctrination" without explaining what it means (What does it mean?) and without differentiating between desirable and undesirable forms, if there is such a distinction.

Though readable and often eloquent, the book suffers somewhat from its overly professorial diction. Kinder editing might have rescued the author from the occupational hazard of using words like "vaticinations," "energumen," and "caducity." On the purposes of education, the limits of academic freedom, the true meaning of democracy, Dr. Kirk is an outspoken defender of traditional positions. He is especially effective in showing that the real root of the danger to freedom lies in "a degradation of the democratic dogma." (p. 57) He exposes the Deweyites' misuse of "democracy" as a "god-term," i.e., an expression "drained dry of any objective significance, but remaining an empty symbol intended to win unthinking applause," (p. 45) and points out many of their inconsistencies. For example, Dr. Kirk, like many others, cannot understand "how certain professors who are doctrinaire equalitarians at the same time deny the right of a democratic government to make even the most limited inquiry of them." (p. 146)

Dr. Kirk writes that "democracy finds its best defenders in the men who think there is something higher in the universe than pure democracy, and academic freedom its most able champions in men who believe in just authority." (p. 185) This helps to explain why this book is a notable contribution to the cause of democracy and academic freedom. American education needs more men like Russell Kirk.

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The Self and the Dramas of History. By REINHOLD NIEBUHR. New York: Scribner's, 1955. Pp. 255 with index. \$3.75.

Is the "self" the creator or creature of history? If not the creator, can it have any effective influence in the dramas of history? If not the creature, how can it preserve its inviolability? Such, it seems, are the questions the well-known Protestant theologian, Reinhold Niebuhr, sets himself to answer in this volume. Raised in his mind by Martin Buber's *I and Thou*, they have played a subordinate part in the author's other works: here they are faced in themselves and receive some excellent answers. Within well-defined limits, the "self," man, is both the creature and creator of history, according to Niebuhr, and it is imperative that he be aware of this, especially in our time. "But more ultimately considered, this political problem is merely a version of the more general problem of how man is to

be aware of his status as both creator and creature in history. If he forgets that he is a creature and imagines himself purely a creator, he will lack reverence for the achievements of the past, which are beyond his competence, and for the mysterious providence under which an order has been established which blesses his life. . . . On the other hand, if man does not acknowledge his status as creator, his freedom over the historical flux, his right and his duty to challenge the inherited traditions of the community, his obligation to exercise discriminate judgment in rearranging or reconstructing any scheme of togetherness which has been faulty in providing justice, he will merely become the victim of the past which accentuates its vices when it is studiously preserved into the present." (pp. 181-2)

Niebuhr's work is divided into three main sections. The first section is a careful study of the self, caught, as it were, in its characteristic activity of conversing. "We may safely say that the human animal is the only creature which talks to itself." (p. 6) Four chapters are devoted to overhearing the dialogue of the self with itself. Four more chapters explore the dialogues of the self with its neighbors. The author wisely distinguishes between the dialogue of the self with other selves and with the various communities to which it belongs. Lastly, there is a chapter of a rather tentative character on the dialogue of the self with God.

In the course of these chapters Niebuhr has many penetrating things to say, e. g., about the incapacity of depth-psychology to explain the unity of the self (c. 2), conscience (cc. 3-4)—although there seems to be a one-sided emphasis on conscience as a source of anxiety, whereas it can also insure peace—the conditions of communication with others (c. 7), the relation of the self with its communities (c. 8), and especially with history (cc. 9-11). There is an excellent critique of both the cyclical and progressive theories of history.

Central to this section, and to the whole work, is the author's concept of the self. He is right in insisting that the self must not be identified with only a part. He is particularly averse to the identification of the self with "mind," as the rational faculty of understanding. Yet, the fact remains that it is only the intellect and will of man that are capable of acting for the whole self. Perhaps the distinction made by St. Augustine in Book XII of *De Trinitate* between the superior and inferior reason might be of help here. Niebuhr has the tendency to identify rational activity with the activity of the inferior reason. But the reason of man imbued with eternal principles (especially when aided by divine revelation) can transcend itself.

The citation from Charles Lindbergh (c. 6) enforces this notion; it might well be cited as an example of the activities of the inferior and superior reason: "It seems I'm made of three personalities, three elements, each partly dependent and partly independent of the other. There is my body

which knows that what it wants most in the world is sleep. There is my mind constantly making decisions, that my body refuses to comply with. And there is something else, which seems to become stronger rather than weaker with fatigue, an element of spirit, a directive force which has taken control of both mind and body. It seems to guard them as a wise father guards his children . . . when my body cries out that it must sleep the third element replies that it may get what relaxation it can but that sleep is not to be had. When my mind demands that my body stay awake it is informed that alertness is too much to expect under these circumstances. . . . But while it must not expect alertness on the body's part, it can be confident that there will be no sleep." (p. 28) Lindbergh has made no explicit reference here to the "superior reasons" why the spirit takes command of the situation; yet they can be deduced from the whole story of his adventure. They are the high-hearted motives that impelled him to set out on it in the first place and they are not going to be thwarted by the temporary demands of the body.

The second main section is an historical survey of the positions taken within Western culture on the self and the dramas of history. Niebuhr starts with a study of the two components of Western culture, Hebraic and Hellenic. While, as a Protestant, he is obviously more sympathetic to the Hebraic element, and, in fact, to the earlier elements in it, he admits the importance of the Hellenic, but in a very limited way. "It is commonly asserted that we have our religion, and possibly our ethics from the Hebraic side, and our philosophy from the Hellenic side, of our heritage. This generalization is, broadly speaking, correct, but it does not point accurately to the peculiar virtues and defects of each part of our heritage. It does not do justice to the fact that there is a yearning after the ultimate in the Hellenic, as in the Hebraic culture; and that there are ethical and religious concepts in both. But the Hellenic is defective in understanding the self and its dramas because it tries to understand both rationally and ontologically. The Hebraic, on the other hand, is defective in analysing any permanent structure in the flow of temporal events." (p. 77) Catholic scholars would, I believe, agree with this statement of the characteristics of the two components of our culture. However, Niebuhr has a tendency to reduce the Christian religion to these two, without making sufficient allowance for its own originality. "But this does not change the fact that when it is true to itself, it is Hebraic rather than Hellenic." (p. 78) Rather is it not true to say that Christianity brought the light that was needed by both cultures and that the Christian Church has assimilated the truth of both.

As evidence of this, take the author's statement opposing the immortality of the soul and the resurrection of the body: "It is therefore Hebraic

rather than Hellenic in its essence, even though in popular piety the Greek idea of the immortality of the soul has usurped the Hebraic idea of the 'resurrection of the body.' This usurpation is significant because the idea of the resurrection clearly implies the finiteness of historical man and the wholeness of the person in his finiteness and freedom. That there should be a transmutation of that person 'in the resurrection' can clearly be held only 'by faith.' On the other hand, it is supposedly more rational to believe that an immortal soul flees from a mortal body upon death. It may seem a more rational belief, but it rests upon a very dubious distinction between an immortal 'mind' and a mortal body. This distinction is the key to the Greek understanding of the self." (p. 78)

There are several things that can be noted about this paragraph. First of all, we agree that Christianity is closer to Judaism in its essence, since they are both revealed religions and one is the completion of the other. Secondly, the notion of the resurrection of the body is a late development in the Hebraic tradition; the first indication of it is in Daniel and the Maccabees. A little later, in the Book of Wisdom, there is evidence for the concept of the soul and the eternal reward that will be given to the just. Christ Himself makes it quite clear that there is a principle in man that is worth more than his body, or the whole visible universe for that matter. "How is a man better for it, if he gains the whole world at the cost of losing his own soul? For a man's soul, what price can be high enough?" (Mt. 16: 26) When Christ said to the thief on the cross: "this day thou shalt be with me in Paradise," what did He mean? Was it a promise of an anticipated resurrection? Or a promise that his soul would enjoy the companionship of Christ in the heavenly kingdom, there to await the resurrection of the body on the last day? Lastly, we may concede that the Greeks were unable to comprehend the part that matter played in the destiny of man. They did believe that the body was an obstacle and that the perfect state was a disembodied one. While they were wrong, we must recognize that they had plenty of evidence for their position. Man does experience, since original sin, the terrible tension between the spiritual and material components of his unique being.

It is not surprising to find the author accusing the Catholic Church of over-hellenizing the Christian message. It is to be expected that he will object to the doctrine of Papal Supremacy. But the consequences he deduces are unexpected. First of all, "It made a religious experience of the ultimate, which must remain a matter of personal commitment and repentance, into an article of faith which could be enjoined by political authority." (p. 103) Now, while there are instances of peoples being forced into the Christian church by their leaders, this has always been condemned by the Church herself. It was only after the Reformation that the ex-

pression, *Cujus regio, illius religio*, became an accepted rule for determining the "free" acceptance of the Gospel. Again, the author states: "The derivation of political power from the pretensions of sanctity was very effective in a religious age . . .". (*ibid.*) This point is made several times; but it is scarcely fair. If the Church had followed the Donatists, she might be accused of acting on pretensions of sanctity. Thanks to that aberration, it became clear very early that holiness was not the title to rule the Church lay claim to, but the power of orders and jurisdiction communicated to her by Christ. Once again, it was the followers of Calvin who lay claim to rule because of their "election."

One more of the author's strictures against the Catholic way of uniting the Hebraic and Hellenic elements in our culture deserves to be mentioned. "Ironically the empiricism on which Bacon insisted . . . had to be asserted against the authority of a Christian Aristotelianism, though the idea that reality is not totally rational and that it is necessary to account for 'the irrationality of the givenness of things' is derived from the Biblical doctrine of creation as contrasted with the classical idea of creation through the rational forming of the formless matter or the unformed stuff. But this idea of creation was corrupted so that a divine act becomes in each particular instance an explanation of an event, which obviates the necessity of finding a particular cause for it." (p. 104) There may be some representative of Christian Aristotelianism that could be cited in support of the above ideas, but he would not be a very good representative. Certainly Aristotle and St. Thomas were mistakenly convinced that perfect necessity reigned in the celestial spheres; they were correctly aware that the events of nature and history that fell within their ken were not "totally rational." They made every effort to elucidate wherein they were rational, and discussed the methods for handling the "irrational givenness of things," not in the sense of "rationalizing" it, but of ever being aware of it and its limits. In this, I am sure, St. Thomas is much more akin to Reinhold Niebuhr than the latter realizes. This is why a Thomist will find himself in agreement with many points made by the author in the final section of his work.

The third section discusses the possible role of the self in the contemporary dramas of history, especially in the political field, the economic, the international. The author has many fine insights in each of these fields; we should like to give the reader an indication of their caliber by citing some of his observations regarding the integration of the world community. (c. 22) The veto power of the U.N. was founded primarily on the illusions of the past decade that the free world could establish community with communism. "But the veto power has another justification beside the one furnished by this illusion. It is based upon a shrewd insight which the

idealists who would abolish the veto do not understand. This insight is that the world community is not sufficiently integrated to permit a majority to be victorious over a minority in the councils of the nations. For in that case the minority, having the power and the inclination, would merely challenge the majority by the arbitrament of war."

Despite his warnings against relying too much on the power of prediction in the field of history, Niebuhr attempts one himself that has hopeful possibilities. He foresees the possibility that the Communist bloc "would gradually lose its power to challenge the world. . . . Such a loss of historical dynamic is not unprecedented. Mohammedanism was once a dynamic politico-religious movement. It has not ceased to exist, but it now lacks the power to challenge any established unity." Lastly, I think we can all ponder the very wise summing up of America's position in the world community today. "We are in an unusual position, in fact, of having been very reluctant to acknowledge both the power and the responsibilities we now bear. This virtue is of course not a clear gain. *For the absence of the lust for power grants no immunity against pride in its possession.* We may, in fact, aggravate that pride by the pretension that we do not have it." (Italics added). The self has a valiant defender and the dramas of history a keen observer in Reinhold Niebuhr.

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Liturgical Piety. By LOUIS BOUYER. Notre Dame: Notre Dame University Press, 1955. Pp. 294 with index. \$4.75.

If it is not immediately evident why such a book such as *Liturgical Piety* is reviewed here, one need only refer to Father Bouyer's own significant statement: ". . . any liturgical renewal is doomed to fail which is not, in its very beginnings, soundly theological." (p. 49) Here is the crying need in our contemporary liturgical movement—the lack of an adequately articulated theology of liturgy. In this first of Notre Dame's new series on liturgical studies the author attempts to fill that lacuna in modern liturgical writing. Unhappily, *Liturgical Piety* is not the answer to the problem.

The book presents a series of more or less integrated chapters, ranging from historical criticism of various periods in liturgical history to historicodoctrinal ventures in the Christian Mystery. After judging Baroque Christianity as the villain responsible for a purely externalistic idea of liturgy, Father Bouyer discusses the Romantic reaction to Baroque, then the Patristic liturgical ideal. From there he uncovers the Jewish Qehal, "the

assembly of God," as the prototype of the Christian *ecclesia* and sums up the unity and perfection of the liturgy as "the meeting of God's People called together in convocation by God's Word through the apostolic ministry, in order that the People, consciously united together, may hear God's Word itself in Christ, may adhere to that Word by means of the prayer and praise amid which the Word is proclaimed, and so seal by the Eucharistic sacrifice the Covenant which is accomplished by that same Word." (p. 29) There follows a section on the modern and contemporary liturgical movements in which the author evaluates the work of Dom Guéranger as well as that of Abbot Herwegen and Dom Casel of Maria Laach. He shows a preference for the liturgical school of Laach and also praises very highly the work accomplished by Dom Lambert Beaudouin, an unpublicized monk of Mont César, who led Belgium's liturgical revival after the turn of the present century.

With liturgical history brought up to date in the first five chapters Father Bouyer turns his attention to the "Catholic tradition concerning the shape of the Eucharist." He then sympathetically presents Dom Odo Casel's theory of liturgy and mystery, while denying the positive link made by *Das Christliche Kultmysterium* between the pagan mystery religions and Christianity. Under the title, "The Pauline Mystery and Its Proclamation: From the Synagogue Service to the Missa Catechumenorum," the meaning and liturgical significance of "God's Word" is then discussed. As final offering in this general Eucharistic section the reader finds an examination of the relation between the Jewish and the Christian Eucharistic celebrations and a note on *Epiclesis* and *Verba Consecrationis*.

In chapters eleven, twelve, and thirteen Father Bouyer expounds and expands the notion of the Christian Mystery in the Sacraments and Sacramentals before discussing the Mystery in the Liturgical Year. The Divine Office is then treated as the Praise of the Mystery, followed by a comparison of "Liturgical" and "Non-liturgical" devotion, and the book ends with a defense of an eschatological mentality among Christians. An appendix on liturgical studies is added, together with an index of subjects and names.

There are, of course, many things in *Liturgical Piety* which can be unqualifiedly recommended to its readers. High among them is the emphasis placed upon the communal significance of liturgy. Throughout the book but especially in Chapter II, the historical observations of early Christian practice are especially enlightening on this point. Also of genuine consequence is the denial of any opposition between so-called "subjective" and "objective" piety, an echo of Our Holy Father in *Mediator Dei*. Father Bouyer adds an important determination here by going beyond the mere negation of any opposition to point up "the inherent and mutual relation of the 'subjective' and 'objective' in piety." (p. 17) The condemnation

of "archaism and archeologism" shows an intelligent appreciation of the "exaggerated and senseless antiquarianism" censured by *Mediator Dei*, as does also the author's constant rejection of liturgy as merely external formalism. In stressing the truth that God's Love does not find goodness in us but rather creates that goodness Father Bouyer accurately and beautifully portrays the reality of the "divine *agape*." The Divine Office is elegantly expressed as "The Praise of the Mystery" with the excellence of Lauds and Vespers emphasized as the perfect morning and evening praise of God.

Worth noting, also, is the close relationship established between martyrdom, virginity, and monasticism from an historical viewpoint, and in the same context, the identification of Mary's lifelong *fiat* as a bloodless martyrdom. Finally, devotional practices are critically examined and brought into the stream of liturgical awareness—a point of interest for anyone aware of the danger of peripheral Christianity.

All these beautifully colored and nicely shaded pieces are parts of a whole, however, and as all wholes, this one, too, has other parts. Unfortunately, the other parts of *Liturgical Piety* are occasionally colored not with beauty but with somewhat untempered phrases and innuendo, such expressions as: "the sham scholarship . . . the amateurish kind of scholarship of Dom Guéranger," (p. 13 and p. 65) "the highbrow intellectualism of the great masters of the (Dominican) Order." (p. 245) They are shaded, too, but only because the author has a peculiar ability to lose himself at times in rather vague theologizing. If only Father Bouyer could combine accurate theology with his penetrating historiography, his reader would be far more receptive of his message.

At the heart of *Liturgical Piety*'s conception of the Christian Mystery is God's Word, but each time the subject of God's Word is discussed the reader is forced to grope his way through ambiguity. (cf. p. 29; pp. 105-10) When using the phrase, "God's Word," does the author mean the Word of God as the Second Person of the Blessed Trinity, that same Word as Incarnate, or the message of revelation given to man by God? Is it too unreasonable to expect that a book, purporting to be "soundly theological," would avoid such confusion in supposition? Further, as Father Bouyer evolves his Word-puzzle, he becomes, unconsciously no doubt, slightly Nestorian in his expressions; as examples in point: ". . . the Word, incarnate in Jesus . . .," (p. 27) ". . . when God sends His Word to us, He is Himself present in Him Whom He sends," (p. 106) ". . . as God was present in Him Whom He sent, so the Word is and ever will be present in those who have been sent in their turn," (p. 107) ". . . the Word of God in Christ . . ." (p. 139)

A second vital position of the author, namely, that thanksgiving is a more

basic element than sacrifice in the Mass (p. 131), seems difficult to reconcile with the doctrine of *Mediator Dei*. It is also curious in this context to find Father Bouyer basing his ideas on the Eucharistic liturgy upon those of a Swedish protestant, Ingve Brilioth. (pp. 75 ff.) It is regrettable that the notion of communion, well-phrased as "a common share in common goods," (p. 76) was not developed further; for a true theology of liturgy seems to demand centralization around the concept of God as our supernatural Common Good.

The concept of "Mystery" is given a thorough consideration throughout the book. When it is set forth finally as the entire *depositum fidei* which, after all, it really is, although I do not believe Father Bouyer would agree to have the Mystery expressed so laconically, there is a conspicuous absence of the Holy Trinity. (cf. p. 127) Such an oversight should be benignly interpreted if there were no other passages creating the same impression that the author has forgotten the Trinity. In those instances where Christ is *pneumaticized* the reader finds the same disregard for the central mystery of Catholicism. Christ is "made life-giving Spirit." (cf. pp. 192, 198) This rather strange conception appears even more incredible in the passage: ". . . through the Christ Who has now Himself became *Pneuma*, life-giving Spirit . . ." (p. 88) Besides this lack of an adequate Trinitarian theology, Father Bouyer in citing Dom Casel apparently wants to identify even numerically Christ's grace with our own (cf. pp. 88, 158)—all this while "using light of *Mediator Dei*." (p. 69)

There are other exceptions one might take to *Liturgical Piety* deserving mention here. The clarification given by our Holy Father in *Mediator Dei* to the traditional phrase, *Legem credendi statuat lex supplicandi*, seems to have been overlooked. (cf. p. 30) The author's order of the liturgical year which would place Advent, Christmas, and Epiphany at the end of the cycle instead of at its beginning, though interesting, appears a bit curious when compared with the ordering of *Mediator Dei*. Father Bouyer also makes a rather unfair appraisal of the "Incarnational" position of many Catholic writers when their aim of effecting a Christian society in the world is assumed to be their "final end." And finally, the author's denial to the science of theology of a voice in presenting the "theology of liturgy" indicates a lack of appreciation for scientific theology, a characteristic overtone of other passages in the book.

It is always a difficult and unhappy task to criticize adversely a book whose subject is close to one's heart. But surely not everything written on liturgical piety merits an unqualified acceptance by those who are enthusiastic for liturgical piety. In fact, the reader who seeks to understand liturgical piety, or in other words, seeks a theology of liturgy, must be critical by reason of his purpose. In the present case, Father Bouyer's

work, though certainly of genuine merit in many respects, too often betrays the lack of solid theological foundation to fulfill the purpose.

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Aquinas on Nature and Grace. Edited by A. W. FAIRWEATHER. Philadelphia: Westminster Press, 1954. Pp. 386 with indexes. \$5.00.

This book constitutes Volume XI in the Protestant-sponsored Library of Christian Classics. In all, the series embraces twenty-six volumes, and these, according to the General Editors' Preface, are designed to present "a selection of the most indispensable Christian treatises written prior to the end of the sixteenth century." The first thirteen volumes deal with the writings of the Fathers, Doctors, and the Scholastics, with St. Augustine given, numerically at least, the preference. The last thirteen volumes, with the sole exception of a section given over to Erasmus, deal with the works of the Reformers, especially Luther and Calvin.

In the present volume, the Editor, the Reverend A. M. Fairweather, of Edinburgh University, contributes an interesting Introduction, and then sets himself to the selection and translation of those parts of the *Summa Theologiae* which for him illustrate the distinction between the orders of reason and revelation or "nature and grace." From the *Prima Pars* of the *Summa* the Editor chooses the first four Questions, dealing with the nature of theology, the mind's ability to prove the existence of God and His attributes; and Questions 20-23, dealing with the prefatory elements to and the nature of Predestination. From the *Prima Secundae* he singles out Question 82, on original sin, its essence, causes and effects. From the *Secunda Secundae* he selects Questions 1-7, on Faith; Questions 17-21, on Hope, together with those sections of special interest to the Reformers, the Gift of Fear, and the vices opposed to Hope, Despair and Presumption. The virtue of Charity is considered rather summarily in Questions 23 and 27. The volume contains an excellent Bibliography, together with a complete Index to the Biblical citations and authors quoted by St. Thomas in the sections here included.

For the most part, the translation is well done. Mr. Fairweather has tried to render St. Thomas in crisp, simple style. The result reads much better than the current stilted English translation in use by Catholic scholars. The Scriptural quotations however are from the King James version. Footnotes, where needed, explain possible misconceptions for non-Thomists in the text.

The brief Introduction is divided in terms of the passages chosen, explaining St. Thomas's thought in sympathetic fashion. Nevertheless, the Editor continues to propagate some erroneous notions, which, because of the amplitude of their allegations, can be hardly more than briefly answered in the limits of this review. And these are in a sense traditional difficulties. First, the intellectual cleavage between St. Augustine and St. Thomas is declared to be fundamental and unbridgeable. Augustine from this point of view never lost the Manichean notion of cosmic evil, which affects all nature and especially human nature. For him, man indeed possesses the power of reason, but because of the Fall it is incapable of activity in the face of the weakness of the sinful will. Reason, even though in contact with the evidence of the physical, external world, can tell us nothing of the existence and nature of God. The only way to achieve this awareness is through the "inward way" of spiritual, religious experience, and grace is the necessary condition. "Reliance on the ontological argument to divine existence automatically follows." This argument through religious experience depends on knowledge of divine entities entirely unrelated to sense experience.

Now it is true that St. Augustine did say some of these things, but they must be read in the context of his entire thought. He was a courageous thinker, striving to draw from his convictions their deepest content. As his mind grew, he modified many of his earlier positions, and even denied some, as is evident in his *Retractationes*. Philosophical speculation, far from being despised by Augustine, reached a new peak through his efforts, and, as he himself admits, much of his thought is tentative, more of an essay at an answer than the answer itself. It is true, too, that he was, in the words of St. Thomas, "imbued with the doctrines of the Platonists." Nevertheless, he was too serious a thinker to go against common sense and adopt uncritically the neo-Platonic notions. Consequently, St. Thomas continues, when he "found in their writings anything consistent with the faith, he adopted it; and whatever was contrary to the faith, he rejected."

Because of his preoccupation with the soul St. Augustine appears to neglect the body. Yet both in his *Contra Academicos* and his *De Trinitate* he vigorously defended the validity of sense knowledge against the sceptics of his day. For him, sense is not as important as the mind, since the body is not as important as the soul. But, absolutely speaking, the body and its knowledge are not to be despised. Moreover, Augustine felt he could prove, and indeed had proved the existence of God. In *De Libero Arbitrio* II, he advanced the argument from finality and the moral argument from the testimony of conscience. Yet granted that the ones he preferred rested on the nature of truth and goodness, even in these the existence of the First Truth and the Supreme Good is achieved by causal arguments. In regard to Mr. Fairweather's allegation that St. Augustine

never completely freed himself from the Manichean preoccupation with evil, it suffices to quote the able scholar, Etienne Gilson: "An obvious metaphysical optimism pervades the whole doctrine of Augustine. He never admitted that matter was evil, nor that the soul of man was united to the body in punishment for his sin. Having overcome the gnostic dualism of the Manicheans, he never relapsed into it." (*History of Christian Philosophy in the Middle Ages*, p. 78.)

In dealing with the Anselmian argument for God's existence, for which the Editor appears to have a marked preference, he notes that: "most commentators are agreed that the criticism offered (by St. Thomas) is not valid against Anselm." (p. 25) The names of these commentators escape us. Copleston states: "In the Schools (Anselm's argument) is generally rejected, though some individual thinkers have maintained its validity." (*History of Philosophy*, Vol. II, p. 164) And the precise reason why it was rejected was "its question-begging form." It assumes what must be proved. It makes concept-existence identical with real-existence. That Anselm considered it a true argumentative proof is clear from his reply to Gaunilo's criticism of it. However, since he appears to have held the position of the ultra-realists in regard to universals, namely, that our higher ideas are in some manner existent realities, he was prepared to maintain that the idea of an infinitely perfect being necessarily has objective reality. His faith got in the way of his reason. In this respect, Descartes understood the implications of his own thinking more clearly than did St. Anselm.

The most serious objection to St. Thomas's rejection of the ontological argument and his insistence on an *a posteriori* mode of proof, evidenced in the Five Ways, lies in Mr. Fairweather's charge that, although St. Thomas throws St. Anselm's proof out the front door, he smuggles it in the back door, and even makes it the basis of his own proofs. The Editor especially finds this implied in the concluding words of the Five Ways: "and this we call God." "The argument to a First Cause cannot therefore be said to have proved anything, unless it is supplemented by the ontological argument, which depends on the mind's direct awareness." (p. 26) Now, strictly speaking, one of the prerequisites of any exchange of views, of any advance in knowledge, is that we know what we are talking about. St. Thomas considers that before we begin any discussion as to the *quid rei*, we must have common intellectual ground, we must agree, that is on the *quid nominis*, the meaning of the terms we are to use. This is essential in any discussion of the Deity. We use the term *God*; it has signification for us. The problem to be solved is that of the source of this signification for us.

Man's knowledge of God is in a very real sense reflexive. Bearing the divine impress in his intellectual soul, and urged by a deep seated, inarticu-

late, natural drive to be conjoined to his Source, man has his own created condition ever more clearly brought home to him by the impact of his daily life. He may be scarcely aware of the logical process involved in his acknowledgment of a first transcendent cause of nature. It is a prephilosophic understanding of causality, and of the impossibility of an infinite regress in causation. To the inquirer, nature, on every hand, seems to re-echo the words of the Psalmist: "He made us, and not we ourselves." Our acknowledgment of this is the crystallization of many impressions, and eventually it takes for us the form of an obvious fact. Because the truth is forced upon us by experience, the only way we can reject it is by making a barrier of our will at the instigation of our passions. For this reason St. Paul castigates the pagans, then and now; they knew Him, through the constant impact on them of the things which He has made, and because they repulsed Him "they are without excuse." (Rom. 1: 18-23)

Yet, even if we were to aver that the intellectual acceptance of the Divine existence rests upon a fundamental intuition, this intuition would have been born of causal experience, an imperfect, prephilosophic notion, and it would still have to be explained and justified by recourse to the scientific argumentation of St. Thomas. The technical apparatus he utilizes in the Five Way rests upon this primary certitude which is gained by experience and not by the mind's direct awareness. The argument of the Five Ways is probative; it offers new grounds for certitude. It deepens the initial conviction, and gives it intellectual stature by enabling us to probe its content, making the acceptance of God's existence an act worthy of a wise man. To utilize the notion of intuition as a mystical, super-certitude which does away with the necessity of reasoning, is to distort man's true place in the hierarchy of being. The Editor's difficulties arising on this score can be traced to his failure to grasp the fact that in the *Summa*, a *summary of Theology*, St. Thomas necessarily presupposes what he has written elsewhere, both in a theological and a philosophical vein. The *Summa* does not stand alone, and it can be understood only by a Christian who has had a thorough grounding in Scholastic philosophy.

The Editor's observations on the section on Grace again lead one to suspect that he has read St. Thomas *materialiter*. St. Thomas speaks of the "infusion" of grace; this is a "magical" process. He is surprised to find that St. Thomas teaches the gratuity of salvation and justification. In this the Angelic Doctor is simply echoing the teaching of the Catholic Church. Yet in his explanation of St. Thomas's view, he places him in the camp of Luther: "It is recognized that justification is by faith and not of works, and it is quite clear that Aquinas held no brief for the notion that salvation could be merited by good works." (p. 30) Actually the tract on Grace can be understood only in the light of the entire *Prima Secundae*,

for it is the culmination of this part. Grace builds upon nature, human nature, and perfects it. It is not only *sanctifying* but also *healing*. After stating that man achieves happiness or loses it by his own human acts, St. Thomas does not intend to deny it in this section. He quotes with approval the words of St. Augustine: "God perfects in us by our cooperation that which He initiates by His operation. For He operates first to make us will, and co-operates with those who will, to make them perfect." (Q. 111, a. 2) Certainly the initiation of the process is from God; this the Scriptures clearly teach. But merit would be a mockery if man did not enter intimately into the work of his own salvation. This is in keeping with the constantly-repeated dictum of St. Thomas: "God acts in every being according to the nature of that being, to move it necessarily, if it be of the non-intellectual order; to move it freely, if it be an intelligent agent." Salvation is wholly in the hands of God, and, marvelous mystery, it is wholly, too, in the hands of man. For the action of grace does not destroy man, in any phase of his specifically human life.

The discussion of Grace closes with this observation of the Editor: "The whole treatise causes one to wonder what would have happened at the time of the Reformation if Aquinas had been universally understood in the Catholic Church, and if all parties used the same terms with the same meanings. The Reformation would still have been inevitable, but it might have taken a different course." (p. 31)

Lest the readers of this volume should consider that they now understand the *Summa*, we should like to point out that they will have seen 31 Questions and 183 Articles out of the 631 Questions and some 3000 Articles of which it is composed. If the *Summa* be compared to a banquet, the sections here assembled may be likened to the hors d'oeuvres, which are intended to whet the taste for the main fare. It is sincerely to be hoped that this brief sampling may draw our separated brethren to the master-work itself, that they may appreciate one more of the treasures of the Christian spirit, of which they were despoiled by the Reformers. What the Editor has included is all to the good, but what he has omitted of the *Summa* constitutes the very core of the Christian teaching, the most satisfying to mind and heart of all the endeavors which mortal man has made to fathom "the depth of the riches of the wisdom and of the knowledge of God." (Rom. 11: 33)

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BRIEF NOTICES

Aquinas. By F. C. COPELSTON, S.J. Baltimore: Penguin Books, 1955.
Pp. 263. \$0.85. (paper).

The distinguished Jesuit has contributed this volume on Aquinas to the Pelican Philosophy Series. It is a thought provoking volume intended mainly for the general student of Philosophy but not without great interest to the specialist. It contains an introduction of sixty-nine pages and subsequent chapters on "The World and Metaphysics"; "God and Creation"; "Man (1) Body and Soul"; Man (2) Morality and Society"; and Thomism. Appended to these chapters are Biographical Notes and an Index.

The method of approach is multiple. The author essays, and not without success, the difficult task of giving a synthesis of the basic philosophical principles of Thomism. In this he seems to be unnecessarily troubled on the one hand by the fact that Aquinas wrote no *ex professo* course in philosophy and on the other by the presumption that St. Thomas' philosophy is theological in its import.

Dr. Copleston is eminently an expert in the history and development of philosophical thought and in this area this volume is very enlightening. The historical antecedents of Thomism are presented in proper perspective with emphasis on Aristotelianism. Likewise the contrasts between Thomism and a variety of modern and contemporary philosophies are relevant and suggestive. It seems, however, that the author, as in the question of Essentialism and Existentialism, is a victim of the popular confusion about the Thomistic interpretation.

The reader will be especially intrigued by the author's analysis of the nature and the survival of Thomistic metaphysics. Many Thomists will find it difficult to accept the text's explanation of being as being and the emphasis on the intuition of being.

Dr. Copleston gives a broadening survey of contemporary Thomism and pays great and just tribute to Maritain and Gilson in this connection. He might have elaborated more the excellence of American Thomists and American Thomistic centers. Some of these, incidentally, will not be pleased with the implications of the term "Thomistic Agnosticism," even though he explains his use of it. Again many will not take without question the author's pessimism about the possibility of reducing Thomistic philosophy to certain fundamental propositions.

Despite these debatable points the work is valuable and helpful.

In Librum de Causis Expositio. S. THOMAE AQUINATIS. Cura et studio CESLAI PERA, O. P. Turin: Marietti, 1955. Pp. 231 with index.

In Aristotelis Libros Peri Hermeneias et Posteriorum Analyticorum Expositio. S. THOMAE AQUINATIS. Cura et studio RAYMUNDI M. SPIAZZI, O. P. Turin: Marietti, 1955. Pp. 457 with index.

In Octo Libros Physicorum Aristotelis Expositio. S. THOMAE AQUINATIS. Cura et studio P. M. MAGGIOLO, O. P. Turin: Marietti, 1954. Pp. 675 with index.

In these latest releases, the publishing house of Marietti gives us two more manual editions of the Leonine text, viz., St. Thomas' commentaries on Aristotle's *Physics* and on parts of the *Organon*, and also a good working text for St. Thomas' exposition of *de Causis*.

Though smallest in size, the edition of *de Causis* is by far the most interesting of these volumes. Lacking the definitive text being prepared by the Leonine Commission, and recognizing that previous versions border on the unintelligible, Fr. Pera and his associates have prepared an interim edition that removes most of the obscurities and gives a readable presentation of St. Thomas' commentary. They also furnish good historical introductions through which the reader can acquaint himself with the evolution of the text on which St. Thomas commented, and its doctrinal content as compared with neo-Platonic and Arabian sources.

In accordance with the opinion common in his day, St. Thomas evidently first viewed *de Causis* as a work of Aristotle, and cited it quite frequently in the various *Quaestiones Disputatae*, although with some reservations on the authority which should be accorded it. Critical study of the text gradually convinced him of a twofold element in its composition, and this led to the suspicion that the doctrine of the original had been tampered with by Arabian commentators to align it with neo-Platonism. Thus he undertook a detailed exposition of the book to lay bare its genuine teaching, and particularly to refute the spurious elements being used by followers of Averroes and Avicenna. Internal evidence would seem to indicate that apart from the text of *de Causis*, which was a translation from the Arabic, St. Thomas also had at hand a translation of Proclus' *Elementatione Theologica* recently prepared (probably at his behest) by William of Moerbecke. Thus from a comparison of the texts he was able to conclude that *de Causis* was excerpted from Proclus' work by some Arabian philosopher who interposed his own commentary. Recent scholarship identifies the sequence more accurately, but there are still doubtful elements. Probably the best account would have the original work, Proclus' *Elementatione Theologica*,

in Greek, then put into a Syrian compendium under the name of Aristotle, and finally commented upon by Alfarabi under the title *de Essentia Bonitatis Absolutae*, or *de Expositione Bonitatis Purae*, and otherwise known in Middle Ages as the *de Causis* of Aristotle.

To facilitate the reader's understanding of this complex origin, the editors have prefaced the work with a doctrinal exposition which makes explicit the relationship between Proclus' text and the version of *de Causis* used by St. Thomas. This is done by giving a schema of the propositions of the *Elementatione*, and then delineating where these occur in *de Causis*. The texts used for the two latter works are not definitive, but are the fruit of modern critical scholarship and better than those heretofore available; these are Steele's *de Causis* (Oxford, 1935) and Dodd's *Elementatione* (Oxford, 1933). The text of St. Thomas' exposition itself is an interim edition prepared by the editors; it is given with critical apparatus relating it to the variant readings of the first Venice edition, the Antwerp edition, and the Parma edition.

After fifty-eight pages of historical and critical introduction, the exposition of St. Thomas is presented, proposition by proposition. With each proposition, the editors have first prefixed a summary outline, then given Steele's text of *de Causis*, followed this by their version of St. Thomas' commentary, and finally appended a section entitled *Observationes*. In the latter section they furnished variant readings of the *de Causis* text, the Greek and Latin versions of the relevant citations from the *Elementatione*, and the doctrinal uses by St. Thomas of the particular proposition in his other works. At the conclusion of the entire work there are five indices completely referencing the content, the authorities mentioned or cited, and the uses of *de Causis*.

Even this brief description should serve to indicate the amount of work that went into the preparation of this small volume, its value in casting light on the complex historical relationship between Thomistic and neo-Platonic thought, and its utility as a doctrinal text for study and reference.

The other two releases are more in line with the previous manual editions of Marietti. The commentaries on the *Organon*, entitled *In Aristotelis Libros Peri Hermeneias et Posteriorum Analyticorum Expositio*, give the Leonine text of St. Thomas' exposition of these major logical works of Aristotle, the only ones on which he commented. These were done in the same period as *de Causis*, towards the end of his life, the *Peri Hermeneias* never being completed by the Angelic Doctor. The editors have furnished what is available of Thomas' commentary (up to and including Book II, Lect. 2), and have taken the rest from Cardinal Cajetan's commentary on the same work. The introduction furnishes a good evaluation of the modern import of these works. A schematic outline is given for each lesson, together with

a synopsis of the doctrine, and there are adequate notes indicating parallel places and the opinions of other commentators.

The commentary on the *Physics* is likewise the Leonine text. Critical apparatus and the Greek text of Aristotle have been omitted, but valuable schematic outlines have been inserted before each lesson, and the Leonine summary at the end of each lesson is retained. The preface and notes are not so extensive as in previous volumes, possibly deliberately abbreviated in order to limit the size of the work.

All three volumes are valuable additions to Thomistic source material. The commentaries on Aristotle could have been improved for English readers by insertion of the Bekker numbers, for without these numbers it is impossible to have ready reference to Ross' English text of Aristotle. Also, the footnote references are at times confusing, since the authors have adopted a continuous paragraph enumeration throughout each work, and then have neglected to use their own numbering in the cross-references. The reader who is acquainted with the Leonine folio editions will have no difficulty, however. And such slight limitations certainly will not interfere with the enthusiastic reception of these volumes by American readers.

On Authority and Revelation. By SOREN KIERKEGAARD. Translated by WALTER LOWRIE. Princeton University Press, 1955. Pp. 232 with index. \$4.50.

Reason and Existenz. By KARL JASPERS. Translated by WILLIAM EARLE. New York: Noonday Press, 1955. Pp. 157.

American philosophers have a peculiarly heavy debt to Walter Lowrie and the Princeton University Press. To the one as translator, and to the other as publisher, they owe almost all of the many Kierkegaard works available here in English. The present book has never been published in Denmark, except as part of the twenty volume *Papers*, and the only other translation of it is in the German by Haecker. It is characteristic of the very pure scholarship of Lowrie that he felt he ought to read the works of the intrinsically insignificant Adler with whom this book deals before translating it. Fortunately that turned out to be impossible, since there are no copies of Adler's works anywhere except Kierkegaard's copy now in the Royal Library at Copenhagen. This book is not, as Lowrie notes, one of the most important works of Kierkegaard; but it reveals so much of his mind, proposes so modest a thesis, clusters his characteristic themes around that thesis so closely, and repeats thesis and themes so often, as to be an ideal introduction to him, if that is still needed.

The thesis is that an apostle, a man with a divine revelation, one who speaks with the authority of God Himself, is not to be confused, by himself or by others, with any other category of man, e. g., with the genius. In developing this thesis, the themes we expect are sounded: the attacks on "Christendom" (never on Christianity), on Hegelianism, on the press; the pleas, not for subjectivity, but for inwardness, for contemporaneity with Christ, for "becoming a Christian." There are three titles to this book, and three "Prefaces" by Kierkegaard. There is also a great deal of repetition, sometimes within a single paragraph. But Kierkegaard is Kierkegaard, and one does not quarrel with flaws that are merely "objective."

Jaspers' *Reason and Existenz* (the latter term refers to authentic human existence, existence as the Existentialists understand that term—hence the retained German spelling) is a series of five lectures first published in Holland in 1935 and now translated into English for the first time. During the intervening twenty years, American philosophers have become reasonably familiar with Jaspers' positions, thanks to translations of other, usually later, works of his. Yet the present translation is invaluable for two reasons: the masterful presentation of Jaspers' fundamental themes in Earle's "Introduction," and Jaspers' penetrating presentation of the meaning of Kierkegaard and Nietzsche in the first lecture.

Like each of the other existentialists, Jaspers gives his own interpretation of the shared central intuition of existentialism. That central intuition is phrased thus by Jaspers: "When in philosophizing the point is reached where everything stops, where the self sees itself before nothingness or the divinity, then it is important for the movement of thought, as far as it can, not to sink through the vacuum into the absolutely groundless, but rather to hold the thinker open for the encounter with Being which only becomes perceptible to each when he comes upon himself, does not leave himself out, and, so to speak, is given to himself." (p. 126) The danger "at this point where everything has become empty, nothingness" is that the understanding will "substitute a particular real thing from the world of finite knowledge" for "the authentic being of Transcendence" discoverable in Existenz. (p. 126) The understanding should rather "hold itself free for Transcendence, and preserve itself from the empty understanding and the endless formalization of speech which no longer comprehends." (p. 126)

The particular schematization in terms of which Jaspers interprets this existentialist intuition is the polarity of reason and Existenz. "There is always a polarity of reason and Existenz, a polarity which is only an abbreviated formula for a complex of interrelated modes of the Encompassing as that which we are and which being is for us." (p. 132)

The mid-twentieth century is a time of peculiarly sharp contrasts in philosophy. There is, on the one hand, an intense preoccupation with

method and meaning on the part of the analytic philosophers, the pragmatists and the phenomenologists. There is, on the other hand, the vast sweep of Marxism and of existentialism with Olympian detachment, not to say scorn, for minutiae which intrigue analysts. There are further sharp conflicts in the fundamental attitudes of Marxists as against existentialists (e. g., the objective as against the inward, the social as against the personal) and even of existentialist as against existentialist. Yet if he is going to do significant work in his own time, the Thomist must make his way through each of these contemporary types of philosophy with scholarship, respect and justice, but without losing his own centre.

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